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Volume 35 • Number 2

Marine News

FEBRUARY 2024
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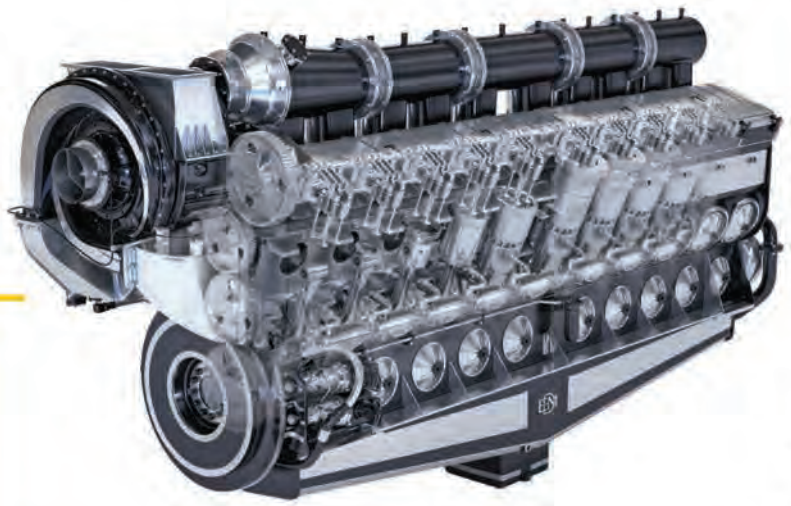

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On the Cover

The U.S. offshore wind industry is still building up despite recent setbacks.

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Editor's Note

Eric Haun, Editor,
haun@marinelink.com

Down but not out. That's how I'd describe the current state of the U.S. offshore wind industry.

Philip Lewis, director of research at business intelligence and consulting firm Intelatus Global Partners, and author of this month's "By the Numbers" look at U.S. offshore wind, has been tracking this industry very closely. He notes that setbacks have slowed industry progress but that federal and state agencies are (re)building the foundations for future activity while the first wave of commercial-scale projects continue to build up. "Intelatus maintains its forecast of more than 65 projects that will install around 90 GW of capacity in this and the next decade and a total 110 GW by 2050," he writes. For those keeping score, that's a lot of activity—and work for U.S. companies.

The American Bureau of Shipping's (ABS) Offshore Wind Forum in November provided living proof that the industry is not "out". Stakeholders from up and down the supply chain gathered to discuss the path forward, demonstrating that there are many firmly committed to helping this industry grow. I take this as a good sign.

The future has yet to be written. Conditions can always change, of course, especially on the political side where the outlook is hazy at best. But one thing is for certain, it's going to be a wild ride.

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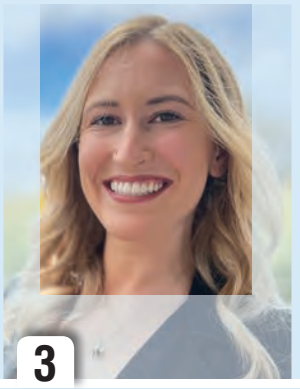
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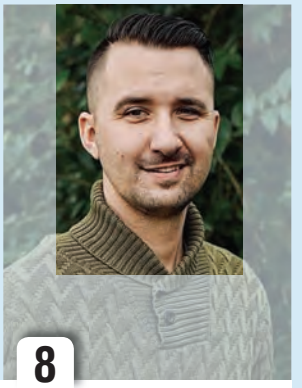
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By the Numbers

Rebuilding the Foundations of US Offshore Wind

By Philip Lewis, Director of Research, Intelatus Global Partners

As we enter a New Year, the memories of the shocks to the foundations to the U.S. offshore wind segment remain fresh. In short, supply chain inflation and capacity/availability, interest rate increases, and tax credit monetization have been the key themes highlighted by developers to explain why many projects became commercially unviable.

Several Northeast and Mid-Atlantic states have reacted rapidly, accepting the termination of power sales & purchase agreements and allowing the canceled projects to be rebid into new solicitations. The Commonwealth Wind, SouthCoast Wind, Pack City Wind, Empire Wind 1 and 2, Beacon Wind 1 and Sunrise Wind projects, together representing more than 8.5 gigawatts (GW) of capacity, have either canceled or are expected to cancel power sales agreements and then rebid the projects into current solicitations for New York, Connecticut, Rhode Island and Massachusetts, which seek to commit as much as 9 GW of capacity, with contracts that provide some measure of price inflation protection. We anticipate that these projects will continue to be developed, but with a 6- to 12-month delay from the previous plan.

Ørsted has made a much-publicized announcement to cease development of the 2.3 GW Ocean Wind project, but the project retains value to be developed by a new party or even Ørsted as it is both permitted and has a secured offtake agreement. Again, we anticipate that this project will be developed at some stage more than five years in the future.

Several other projects in New Jersey and Maryland are also currently under review, where we see a risk of delay rather than termination.

Federal agencies continue to focus on project permitting and advancing new leasing.

The Department of the Interior's Bureau of Ocean Energy Management (BOEM) is preparing to lease two areas with a potential of 3.3-6.3 GW in Delaware and Chesapeake Bays in the Central Atlantic. Along with the Central Atlantic lease sales, BOEM is committed to leasing further sites in the Gulf of Mexico, Oregon, and the Gulf of Maine in 2024/2025. The cumulative capacity of the leases is estimated at 18.6 GW. When added to the potential capacity of those leases previously awarded, the total potential leased will amount to around 80 GW, of which close to 26 GW is at some stage in the federal permitting process.

And it is not just federal agencies that are advancing offshore wind. The state of Louisiana has signed two leases in its waters for bottom-fixed wind farms with a combined capacity of 775 MW.

While federal and states agencies (re)build the foundations for future activity, first power have been generated from both Vineyard and South Wind, and Coastal Virginia is building up an inventory of monopiles in Portsmouth to commence offshore construction in the Spring of 2024.

Intelatus Global Partners maintains its forecast of more than 65 projects that will install around 90 GW of capacity in this and the next decade and a total 110 GW by 2050.

U.S. Offshore Wind Opportunity by FID Timing

	Projects	GW	Turbines	CAPEX ($ bn)
In Construction	2	0.9	74	4.6
Post FID	2	3.3	240	13.7
0-18 months	12	11.0	674	37.7
18-36 months	8	8.1	479	25.6
36-60 months	11	17.1	987	48.5
60 months	31	51.4	3,582	152.8
Total	66	91.9	6,036	282.8

The 90 GW forecast capacity will require capital expenditure amounting to around $283 billion to bring onstream, a recurring annual operations and maintenance spend of $9 billion once delivered, and close to $40 billion of decommissioning expenditure at the end of commercial operations.

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Catherine Gianelloni

Director, MITAGS East Coast Campus

Catherine Gianelloni sailed with the International Organization of Masters, Mates & Pilots (IOMM&P) for about 10 years after graduating from the U.S. Merchant Marine Academy in 2009. But in between times at sea, she would help out at the MITAGS (Maritime Institute of Technology and Graduate Studies). Operating simulators evolved into teaching opportunities, and Gianelloni took a full-time position in 2012. "Because we are the union school, I was allowed to take breaks—leave of absences—to go out and sail. I managed to maintain my license and even upgrade it while I was an active instructor," Gianelloni said.

By Eric Haun

All images: MITAGS

In January of this year, Gianelloni took over as Academic Director at MITAGS' East Coast campus in Linthicum Heights, Md. "I basically manage the resources and lead the school side of the East Coast campus. I make sure that all the courses are ready to go, the instructors are prepared and handle the day-to-day, boots-on-the-ground activity."

Gianelloni said MITAGS' mission is to drive excellence and safety to strengthen our communities. Its goal: provide top-quality maritime education and serve its IOMM&P trust members. "Beyond that, we want to help mariners gain and maintain their license, and we want to do so in an environment that is quality," Gianelloni added.

Gianelloni said the abundance of hands-on experience found at MITAGS is a key piece of the quality equation. Robust experience, foundational knowledge and recency in sailing allow instructors and representatives at the school to discuss real world current issues with students, she explained. "We can have over 150 years of sea service sitting at the lunch table at any point in time, and it really creates an interesting and dynamic environment," Gianelloni said, referring to the instructional staff.

"We are not in any way a certificate farm. The students really engage with us. We make sure instructors are up-to-date on all the current technology, and we transition with the industry," Gianelloni said.

Industry in transition

The rapidly changing landscape at sea and aboard modern vessels presents a challenge for today's maritime training providers. "Our regulatory requirements don't always marry up well to modern advances. So, we teach mariners what they need to know by regulation, but then also help them take that same skillset and apply it to the ever-changing environment," Gianelloni said. "It's a balancing act between making sure that we meet regulatory requirements while also preparing our mariners to be modern, up to date and able to problem solve."

MITAGS has no problem keeping abreast of current trends. "Most of the students that walk through the school are actively sailing mariners. So, we are getting constant feedback about what changes are actually being implemented in the field. We do have at least a dozen actively sailing instructors who are licensed mariners; they are still going out to sea and then coming here to teach during their breaks from sea. That enables us to stay right on top of changes that are happening."

In addition, MITAGS' unique relationship with the union leaves a door open for dialog with stakeholders. "Vessel operators who use union employment are in a constant feedback loop with us about what their current training needs are," Gianelloni said. "We go above and beyond the regulatory needs. MITAGS has over 200 courses in our catalog, and not all of them are U.S. Coast Guard approved. What that means is we do the regulatory training and then we are in constant discussion with companies to provide any specific training that they need for their sector, their part of the industry or their staff in general.

"By partnering with these companies, both through the union and outside of the union, we get a feel for what their training needs are and then adjust to them. Regulatory classes are regulatory classes; there's no real adjustment there. But a lot of companies invest in their mariners

by giving company-specific training, which shows us how these companies are being proactive in tracking trends and analyzing what would suit their mariners best, beyond regulatory requirements."

Workforce gaps

It's well known that the maritime industry is among those dealing with a shortage of qualified personnel. MITAGS offers several pathways that aim to help fill some of the workforce gaps, including programs approved by the U.S. Coast Guard, State of Washington Workforce Training and Education Board and Maryland Higher Education Commission.

"We have programs designed to help people both gain an original license/credential and upgrade the license/credential that they have. These programs sometimes last as long as two and a half years, but our maritime apprentice program basically offers a fast track into the industry," Gianelloni said. "These programs are incredibly successful."

MITAGS guides students through in-classroom training and helps arrange opportunities for gaining all-important practical knowledge at sea. By the end, a student can take a license prep course before sitting for an unlimited tonnage third mate license exam.

"The pathway for a mariner to both enter the field and then raise their license is confusing and sometimes very overwhelming. And unless we're getting the students directly from a state maritime academy—which is also a phenomenal option—it can be very hard to enter adult education without a clear roadmap."

Gianelloni said MITAGS actively works to remove barriers that often prevent newcomers from entering the workforce—including financial obstacles. "It's a significant ask of somebody to dedicate two years without any type of sponsorship," Gianelloni said, adding that MITAGS tries to secure funds to cover as much of the training as possible or arrange situations where the funds are forgiven after so many years. "In this environment it is unreasonable to ask somebody to get paid cadet wages for two years while they go through the program."

"We partner with a lot of organizations to try and sponsor their mariners through the program. They want the qualified worker on the tail end, and we can help provide what they need. And what we need is time on board their vessels to train these mariners in the practical application."

Simulator strength

Asked about some of the things that set MITAGS apart from other training providers, Gianelloni gave a shoutout

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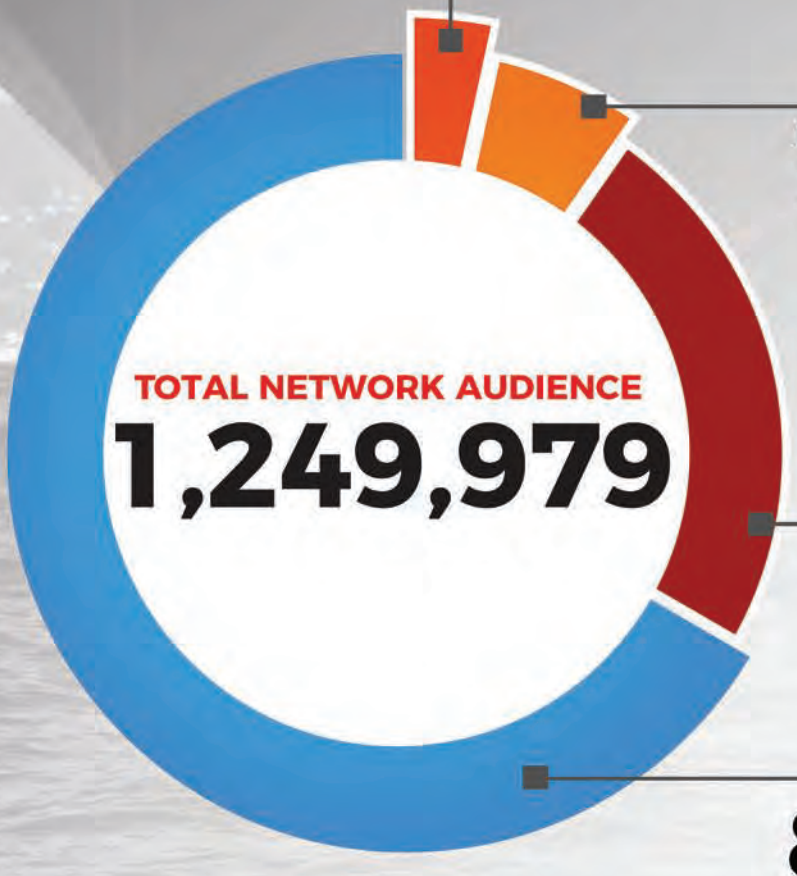

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to the organization's team of more than 75 expert instructors. "We bring in the specialists who know the material through and through."

Gianelloni was also quick to point out the organization's simulation department in particular. "It's our jewel, in my opinion," she said. "We do exercises that we just don't see done anywhere else."

In addition to training mariners in regulated courses, MITAGS performs a lot of operational research for groups such as pilot organizations, domestic companies or even foreign governments. "Our operational research literally reaches around the world," Gianelloni said. "We operate our simulators on a level that is not really comparable to other schools. We test the boundaries of our simulators and the simulator manufactures."

Through grants, MITAGS is currently in the process of installing 12 new simulators on campus that will help it to push the boundaries further in areas such as virtual reality (VR) simulation and dynamic positioning simulation, for example.

The organization's in-house simulation department builds and tests high-tech ship models for clients. "People very much believe in this type of training," Gianelloni said. "To quote one of our instructors on the West Coast, Captain Christine Klimkowski, 'It gives us the ability to exercise our mariners without paying that price in blood and oil.' They get to do things they would not normally get to do, and then they can refine those skills in what we know is a valid environment."

On top of that, MITAGS has an international assessment program, the Navigation Skills Assessment Program (NSAP), which Gianelloni described as a risk-based scenario program that evaluates a mariner's ability to stand watch based on his or her level of training and expertise. "We have partner organizations in the Philippines, in Croatia and in India who are all running this program, and we also run this program in Baltimore and Seattle." Gianelloni said. "This program is used heavily by the oil majors internationally."

"Our operational research and NSAP program have allowed us to evaluate mariners from around the world and implement those lessons learned into modern maritime education," Gianelloni said. "We have had over 5,000 mariners domestically and internationally participate in this program. We have seen how they're standing a watch, and now we can apply those lessons learned to make every mariner who walks through our halls and the halls of our partners safer."

What does success look like for MITAGS at the end of the day? "Success is fewer casualties at sea, whether those casualties be loss of life, loss of vessel or major environmental incident," Gianelloni said. "We aim to be a part of making sailors safer."

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Column

Going Green

For Ferries to Go Green, Governments Will Need to Provide the Green

By Kaiya Levine, Energy & Sustainability Consultant, Arup

Whether it is from international organizations or state government agencies, there is growing pressure on ferry operators to meet stringent goals to reduce the environmental toll from their operations.

The California Air Resource Board's Commercial Harbor Craft Regulation issued the most stringent of these policies, which requires all short-run ferries to achieve zero emission by January 1, 2026. But it's not just California that wants this industry to clean up its act. The United Nations' International Maritime Organization has set goals to reduce carbon intensity of all ships by 40% by 2030.

Ferry transport is an ideal sector for electrification. Almost half of the routes operated in the United States are five nautical miles or less, meaning they have relatively low power requirements to operate. They also operate predictable schedules between two designated locations, streamlining the process for electrification planning.

The environmental benefits are indisputable. Ferry electrification has proven air quality benefits including reduced greenhouse gas, particulate matter 2.5, nitrous oxide, and sulfur oxide emissions. Leveraging existing technology, such as shore power, hybridization, and electric propulsion, enables reduction of up to 800,000 tons of CO_2, according to Siemens energy.

In November 2023, the Federal Transit Administration awarded $220 million in grants to fund 13 projects to mod-

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ernize ferry operations, replace aging vessels, and upgrade ferry terminals.

The grants are critical to helping operators meet goals for reducing greenhouse gas emission set by regulatory agencies. This is good news but represents a small portion of the multi-billion-dollar effort it will take to electrify the industry.

Of the FTA's $220 million award, $15.9 million was directed to the Water Emergency Transportation Authority (WETA) for upgrading its ferry floats to include battery energy storage systems. WETA operates throughout the San Francisco Bay, providing critical transbay services and reducing road congestion. Over the last two years, WETA has been developing a blueprint for transitioning its fleet of 16, high-speed vessels to zero emission to comply with California requirements and demonstrate its leadership in sustainability. This transition comes at a considerable price, but it is achievable with the help of local, state, and federal incentives.

In WETA's operations, it takes two to three minutes to load or unload a vessel, depending on its size. The short dwell times and projected power requirements of the vessels result in abrupt and extreme power draws from the grid, increasing stress on an already constrained system.

These peak demands can be alleviated by interconnecting battery energy storage systems that can discharge when vessels are charging. Many of the terminals are in dense, urban areas with limited space availability, however, and cannot accommodate batteries on the shoreside. To address that constraint, WETA installed batteries in the floats, just one of the creative solutions it implemented to address grid and space constraints with electrification.

WETA is one of many U.S. ferry operators contemplating a sustainable transition, but electrifying fleets comes with a significant upfront investment. Washington State Ferries, as an example, will need nearly $4 billion to complete the transition of its full fleet and terminal upgrades. Costly grid infrastructure upgrades can be mitigated through the interconnection of battery energy storage systems, but there are other significant capital costs. It can cost between $6 million and $15 million for a new vessel or to upgrade an existing one. Furthermore, most terminals require modernization to accommodate the increased power requirements. That can involve installing new conduit, transformers, duct banks, switchgear, and utility disconnects.

Ferry electrification is not the future, it is the now. The technology is proven and only going to become more efficient with near-term advancements. Electrifying the ferry system is a major undertaking that requires a significant investment of procure or upgrade vessels and upgrade terminals to accommodate increase power requirements. However, many operators, particularly small, privately owned operations, may not be able to afford the cost of electrification and will rely on considerable federal incentive to realize their sustainability initiatives.

Column

Safety Zone

Five Tips to Keep Workers Safe in 2024

By Zach Walden, Director of Port Safety, Hampton Roads Shipping Association

The maritime industry accounts for more than 90% of global trade and employs over 3 million people in the United States, and like other modes of transportation, our industry encounters unique risks. Waterfront workers are exposed to various hazards such as heavy machinery, hazardous substances, extreme weather and long hours. If not properly managed, these hazards can result in serious injuries, illnesses and even fatalities. That is why ensuring the safety of waterfront workers is a top priority for all of us who work in the maritime industry. Not only does it protect the lives and wellbeing of workers, but safe operations improve productivity, efficiency and culture…. not to mention, it's just the right thing to do.

Outlined below are five key measures that will help ensure the safety of your waterfront workers in 2024. We believe that implementing these measures will help ensure a safe and healthy work environment for your waterfront workers while achieving your business goals. Our aim is to provide you with practical and reliable suggestions on how to improve your maritime safety performance and start the new year out strong.

Effective training

A well-implemented safety training program not only ensures the wellbeing of workers but also proves to be economically beneficial. It's estimated that for every dollar invested in these programs, there's a return of about $4, demonstrating both time and cost savings while boosting productivity. Effective training (read those two words again) is a critical aspect of safety for your workforce. Training programs should be comprehensive, covering all aspects of safety, including handling of cargo, operating machinery and emergency response procedures. In 2024, enhance your training programs by ensuring they are up to date with the latest best practices, protocols and procedures.

Adherence to safety standards

Adherence to safety standards is a nonnegotiable aspect of maritime safety. Safety standards evolve as PPE, equip-

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ment, work processes and technology progress, and it can be hard to keep up with the latest changes. In 2024, keep an eye out for updates to existing standards and implement any new ones introduced as recommended by the Occupational Safety and Health Administration (OSHA). The Maritime Advisory Committee on Occupational Safety and Health (MACOSH) and we at the National Maritime Safety Association (NMSA) are two organizations that can help you find the resources you need to stay up to date on emerging changes and new safety standards.

Use of safety equipment

Providing workers with adequate and suitable safety equipment is not only vital to a good safety program, but it's also an opportunity to show that you care about your workforce's safety. This includes personal protective equipment such as helmets or hard hats, safety shoes, high-visibility clothing, and fall protection systems for work at height. Further, there are always specific needs for different types of waterfront work which means you will need to ensure the PPE you provide is what your workers need to safely accomplish their job. The current boom in "consumable AI" has started to change how we think about PPE and machine-mounted safety technology. In 2024, ensure that all your workers have access to the necessary safety equipment and are trained to use them correctly, but likewise, investigate new and emerging technologies that may enhance your safety programs.

Regular safety audits

Regular safety audits can help identify potential hazards and implement corrective measures. The U.S. Coast Guard, for example, tracks a variety of safety metrics, including the number of serious marine incidents and commercial mariner injuries. In the new year, if you are not already, consider starting a program to conduct regular safety audits to ensure the safety of your work environment (aboard cargo vessels, warehouse operations, workshops M&R, etc.). These should not be used to put your employees under a microscope and hand out safety violations like they are an Initech TPS report (watch the movie Office Space if you need context). But it is a chance to engage your longshore workers in the field, see where your company can improve its daily procedures and grow the safety programs to continually improve work environments for your workers.

Promotion of safe work practices

Moving into 2024, continue to promote safe work practices among your workers and look for opportunities to gain more insight into the practices your workforce is using and why they have been created. It will go a long way if you start the new year out by listening to your workforce and implementing necessary changes to work practices based on their direct input. If you don't know where to start and that seems like a heavy lift, it may be useful to use the findings from your safety audit. By checking in with your workers and studying your internal procedures, you can jump-start your safety culture in the new year.

As we start the new year, we should remain committed to taking measures (hopefully some of these) to make sure our workforce has a safe and healthy place to work. Don't think about these as huge undertakings but as a part of your company's culture and safety evolution. Start small and work your way up. Connect with your workforce, keep up with industry best practices, and you will promote a safe and healthy working environment for all your waterfront workers. Use the tips we provided, put in the work, and you can make 2024 a safe and successful year!

The views expressed in this blog are solely those of the author and do not represent the opinions or endorsements of any organization or entity. Readers should use their own discretion and consider multiple sources of information when forming their own opinions or making decisions.

Column

Washington Watch

Will 2024 Settle the Turbulence of US Offshore Wind?

By Jeff R. Vogel, Shareholder, Cozen O'Connor's Transportation & Trade Group

There is no denying that 2023 was a challenging year for the U.S. offshore wind market. Citing macroeconomic factors including high inflation, rising interest rates, and supply chain bottlenecks, Ørsted announced on October 31 that they were ceasing the development of the Ocean Wind 1 and Ocean Wind 2 projects, which were scheduled for construction off the coast of New Jersey. Unfortunately, the troubling news has continued into the new year, with Equinor and BP announcing on January 3 that they had reached terms with the New York State Energy Research and Development Authority (NYSERDA) to terminate the Offshore Wind Renewable Energy Certificate (OREC) Agreement for the Empire Wind 2 project. Like Ørsted, Equinor stated that "commercial conditions driven by inflation, interest rates and supply chain disruptions" ultimately "prevented Empire Wind 2's existing OREC agreement from being viable." Fortunately, Empire Wind 1 remains in development, albeit at a much smaller scale with an installed capacity of only 816 megawatts (MW)as compared to Empire Wind 2's potential generative capacity of 1,260 MW.

The cancellation of these projects and agreements by foreign developers, of course, has a cascading impact on the U.S. maritime industry and the American workforce. For example, concurrent with the termination of the Empire Wind 2 OREC Agreement, it was announced in early January that Great Lakes Dredge & Dock Corporation's (GLDD) rock installation contract for the Empire Wind

Avangrid

2 project had also been terminated. Notwithstanding the contract's termination, GLDD's Jones Act-compliant Subsea Rock Installation Vessel (SRIV) remains under construction at Philly Shipyard. Indeed, it was only last July that President Joe Biden attended the steel cutting ceremony for GLDD's SRIV at Philly Shipyard, highlighting the success of an "American owned, American operated" vessel with steel "being made by the United Steelworkers in Indiana", an engine "made by the United States Electrical, Radio and Machine Workers in Pittsburgh", and American mariners from Seafarers International Union.

Notwithstanding these challenges, overall political support for U.S. offshore wind development remains steadfast. The Biden Administration remains focused on its plan to deploy 30,000 MW of offshore wind energy by 2030. The Bureau of Ocean Energy Management (BOEM) continues its work in support of this goal, having completed the review of six offshore wind projects to date, including the aforementioned Ocean Wind 1 and 2 in New Jersey Empire Wind 1 and Empire Wind 2 in New York. Other BOEM-approved projects that appear to be moving steadily forward include Vineyard Wind (Massachusetts), Revolution Wind (Rhode Island and Connecticut), South Fork Wind (New York), and Coastal Virginia Offshore Wind. Noting the importance of offshore wind development to the Biden Administration's energy and environmental platform, and the forthcoming Presidential election, it is reasonable to anticipate that BOEM will face additional pressure this year to expedite its review process.

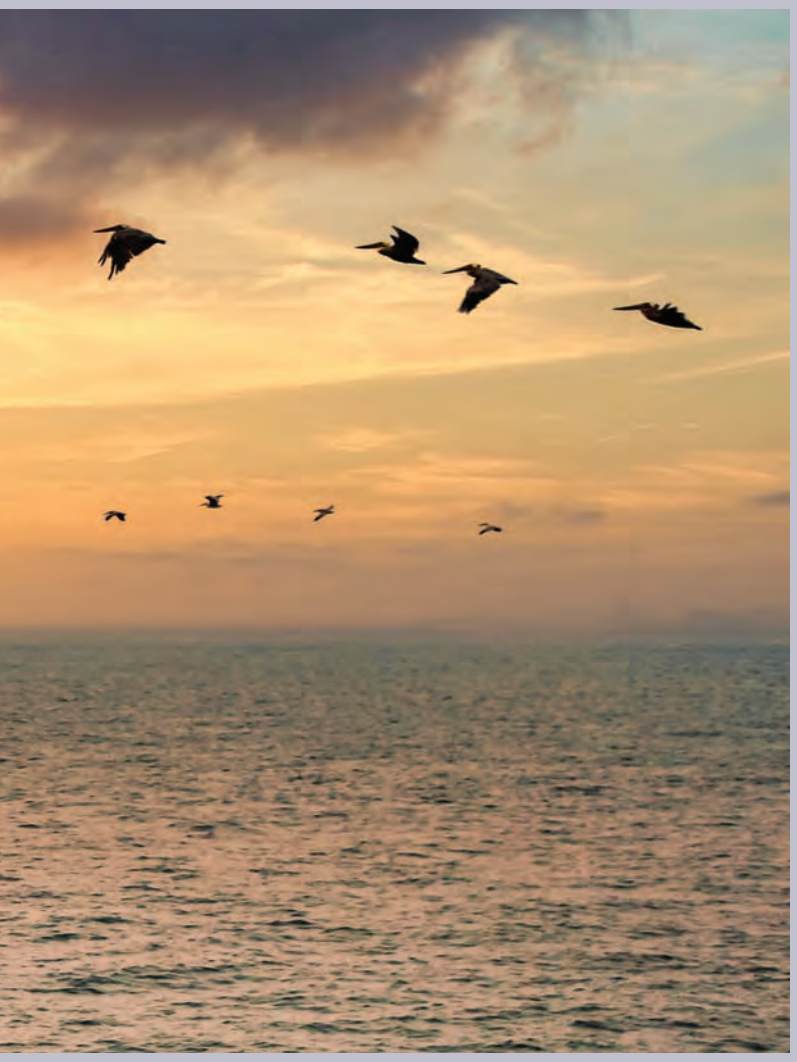
Many States remain similarly supportive for the development of a viable offshore wind industry. New York's Climate Leadership and Community Protection Act, passed in 2019, remains intact, which mandates that at least 70% of New York's electricity come from renewable energy sources by 2030 and calls for the development of 9,000 MW of offshore wind energy by 2035. Notably, despite the challenges of Empire Wind 2, and Ørsted's Ocean Wind project, the Sunrise Wind project, to be developed by Ørsted and Eversource, remains on track with BOEM issuing its Final Environmental Impact Statement for the project on December 11. The project, located between Martha's Vineyard, Montauk, and Block Island would provide 880 MW to New York once complete. In addition, it is important to note that the Empire Wind 2 project is not canceled, rather Equinor and BP will look to recompete for a new NYSERDA OREC Agreement in 2024 (of course, with a substantially higher price per megawatt-hour to offset the macroeconomic challenges highlighted by Equinor and BP in their OREC termination announcement quoted above).

The key to reversing the current course in 2024 will, of course, remain strong government support. One area that we have seen recent, strong government commitment is in the development of marine terminals to support offshore wind construction and operation. As previously reported, the Maritime Administration (MARAD) announced the award of more than $653 million in Port Infrastructure Program (PIDP) grants in November 2023. A significant portion of this funding was focused on offshore wind terminal projects, including $47.4 million for an offshore wind manufacturing hub at the Port of Baltimore, $39.3 million for a wind logistics terminal in Norfolk, Virginia, and $21 million to support the development of the New Jersey Wind Port – the first U.S. purpose-built offshore wind marshaling port. Wasting no time, MARAD released its Fiscal Year 2024 PIDP Notice of Funding Opportunity on December 27th to facilitate the award the $450 million appropriated for this fiscal year under the Bipartisan Infrastructure Law. Given the Biden Administration's offshore wind focus discussed above, and the additional context of a critical election year, it would not be surprising if offshore wind terminal development remains a key focus area for this round of PIDP grant funding.

Taken in the aggregate, many of the financial pressures that negatively impacted U.S. offshore wind development remain in place, although there appears to some cautious optimism regarding 2024 inflation impacts from some economic experts. In addition, while the Federal Reserve recently voted to keep interest rates at their current 22-year highs, there are some indications that rate cuts may slowly occur in 2024, with some economists anticipating that cuts will happen as early as March. This news – when taken together with the unwavering support of many federal and state political leaders for offshore wind development – may signal a solid rebound for the industry in 2024. While the decisions of offshore wind developers negatively impacted the U.S. maritime industry in 2023, industry stakeholders should approach 2024 with optimism that improved market conditions and government action can reverse many of those impacts.

MANY DIFFERENT VESSELS BUT ONE GOAL – PASSENGER SAFETY

By Tom Ewing



Because there are so many different kinds of passenger vessels, the critical topic of passenger safety can sometimes appear as a set of niche topics, each one just distantly connected to another. After all, passengers aboard a cruise ship in the Caribbean face safety issues that are much different than a commuter going from Jersey City to Manhattan or a tourist crossing from the Mukilteo, Wash. ferry terminal to Whidbey Island or a family on a fishing vessel in Miami.

Importantly, though, for passenger vessel operators, a commitment to safety is not siloed. Risks may vary but because even the slightest error or misjudgment can have tragic consequences, safety issues draw broad review: if new dangers arise for a ferry, is there even the slightest chance it could occur on a sightseeing vessel or an Ohio River dinner cruise?

This contrast between specific – sometimes very specific – and general comes to mind when considering the numerous safety advisories pertaining to recent amphibious DUKW boat tragedies or the 2019 Conception dive boat disaster off of Santa Cruz Island, Calif. It's hard to imagine any captain or maritime operator not paying close attention to all of the issues raised by the U.S. Coast Guard (USCG) or the National Transportation Safety Board (NTSB), even though most vessels may have little in common with a DUKW or dive boat.

This broader focus yields other information, beyond hardware and equipment: are regulatory agencies working together, particularly the USCG and the NTSB? Calls for heightened safety concerns in one vessel sector, can signal changes elsewhere, again, not necessarily with equipment but with new or revised industry-wide policies, e.g., inspections, permits, deadlines, safety reviews or new monitoring and reporting requirements (the NTSB is not a regulatory agency).

With passenger safety, the USCG-NTSB working partnership sometimes raises concerns. On August 31, 2023, for example, NTSB Chair Jennifer Homendy, sent a letter to USCG Commandant Admiral Linda Fagan, noting the fourth anniversary of the Conception tragedy. Homendy first cites numerous examples of the USCG and NTSB working cooperatively on critical issues. But her focus shifts to one outstanding issue: the NTSB recommended, after its Conception investigation, that the USCG require safety management systems (SMS) on all passenger vessels. Four years later, she notes with concern that the SMS proposal is in limbo.

"The time for action is now," Homendy wrote to Fagan in August, "In honor of the 34 Conception victims and every other person who has lost their life on our nation's waterways, I strongly encourage you to issue SMS regulations within the next 30 days." A copy of the letter was sent to 10 members of Congress.

Homendy notes that, in fact, the USCG did issue an SMS Advance Notice of Proposed Rulemaking for passenger vessels in January 2021. But "progress has been stalled," she wrote, and that Advance Notice hasn't advanced.

Regulatory impacts vary

In its 2021 notice the USCG includes some important, related statistics:

- There are approximately 6,500 active and

inspected passenger vessels in the U.S-flag fleet.
- Of these, 530 are already required by domestic law to have SMSs, in accordance with International Maritime Organization (IMO) treaty obligations, because they transport more than 12 passengers on foreign voyages.
- From 2017 to 2019, there were a total of six vessel-related fatal accidents on passenger vessels, resulting in 55 deaths, 34 from the Conception.
- Five of the six fatal incidents, and 54 of the 55 deaths, involved vessels without an SMS in place.

Hence the USCG's core question: how many and what kind of accidents and fatalities might be prevented by requiring SMSs on some subset of passenger vessels? An SMS is not a casual check-the-box safety review. An SMS program presents significant costs for small business vessel operators. A New York ferry operator, for example, wrote in response to the USCG's 2021 SMS Notice, that he did not want to be dismissive of safety and documenting safe operations, but "a full blown SMS can be very costly to many small passenger vessel operations while inheriting (sic) a blow to their bottom line income." He commented further: "Don't drag this fleet into the same discussion of the deep draft fleet."

Any upcoming meetings?

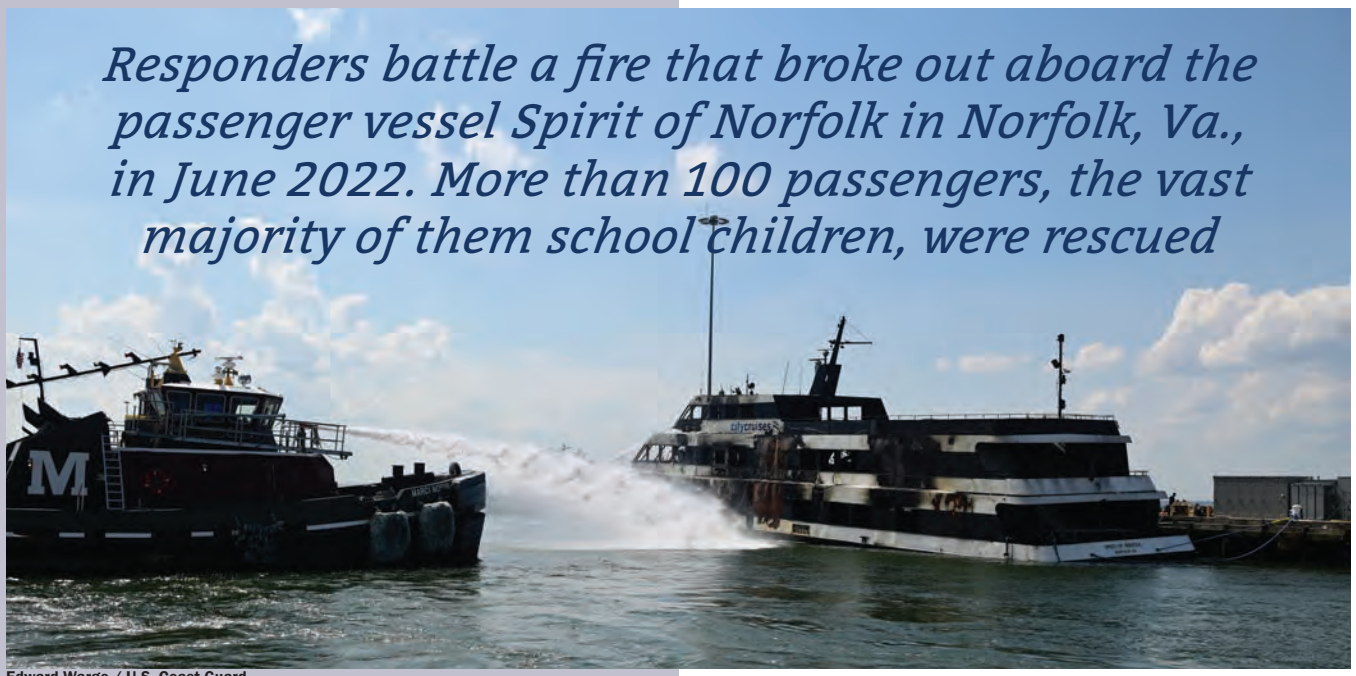
In early January, NTSB was asked about its working relationship with the USCG.

Jennifer Gerbis is on NTSB's media relations team. In an email she said NTSB and USCG staff work on nearly 50 cases each year. Agency personnel are in daily contact, she said, with formal meetings twice a year. "The level of cooperation is the best it has ever been," she commented.

Gerbis said SMS for passenger vessels remains a top NTSB issue. "We look forward to a USCG rulemaking on this as soon as possible," she said.

Other top NTSB issues include a recommendation for voyage data recorders (VDR), or similar devices, on board passenger vessels. It's NTSB's position that recordings of conversations and parametric data are preferable to interviewing participants whose memories can be incorrect; better, objective data will produce better reports and safety recommendations. Another recommendation: provide shipboard employees with personal locator beacons (PLB) to aid in the location of persons in the water.

One idea suggested after the USCG's 2021 SMS notice was that smaller passenger vessel operators could adopt a program similar to the Flagship SMS established in 2017 for members of the Passenger Vessel Association (PVA).



Responders battle a fire that broke out aboard the passenger vessel Spirit of Norfolk in Norfolk, Va., in June 2022. More than 100 passengers, the vast majority of them school children, were rescued

Edward Wargo / U.S. Coast Guard

Interestingly, in the Flagship document, PVA acknowledges and thanks the USCG for its help in developing a "voluntary alternative safety management system for the domestic passenger vessel industry."

One recent legislative change forcing the USCG to be more responsive to NTSB recommendations is a requirement within the "James M. Inhofe National Defense Authorization Act for Fiscal Year 2023," signed by President Biden in December 2022. That requirement directs the USCG to submit to the NTSB a report, within 90 days, whether the USCG agrees with the NTSB's recommendations, partially agrees or does not agree. If the USCG agrees it has to outline the actions it will take to implement NTSB's recommendations.

NTSB was asked about that directive and new USCG reports. Gerbis said, "The Coast Guard now has staff dedicated to handling internal and external safety recommendations like ours." The NTSB transmitted Safety Recommendations M-23 (3,4 and 5) to the USCG on October 24, 2023, files pertaining to the fire aboard the Spirit of Norfolk. The NTSB received the USCG's initial response in mid-January 2024.

Bigger vessels

The Passenger Vessel Association is a national trade and advocacy association that works on behalf of its membership. John Groundwater is Executive Director. He was asked about PVA's top passenger safety issues. He mentioned two:

- PVA expects the USCG to issue SMS regulations soon for certain passenger vessels.
- Crew shortages have caused operators to change schedules. Obviously, there's no passenger safety without required staffing.

PVA is working with many of the maritime academies to promote careers in the passenger vessel industry.

Groundwater said these challenges exist within generally positive business conditions. In an email he wrote that the U.S. passenger vessel industry has largely recovered from the COVID-19 pandemic, and some operations report revenue at or exceeding 2019 levels. He said that dinner boat and charter operators report increasing corporate and group bookings, and the ferry industry has pointed to growing commuter traffic. "In addition," he added, "several small U.S. overnight cruise and ferry operators are building new vessels, which is a sign of industry health."

Ferries: Heavy traffic

According to U.S. Bureau of Transportation Statistics (BTS), ferries in the U.S. carried 132 million passengers in 2019, provided through 760 terminals on 1,106 unique route segments in 40 states, three U.S. territories, and two Canadian Provinces, using a fleet of 839 active vessels. Sixty-seven percent of operators reported that ferry transit was for work trips; 59% for recreational destinations.

Internationally, that passenger vol-

ume is even more eye-opening. The trade association Interferry, which represents ferry operators and businesses worldwide, calculates that ferries in 2019 globally carried 4.27 billion passengers and 373 million vehicles (cars, buses and trailers) on 15,400 ferry vessels.

Mike Corrigan is Interferry's CEO, based in Canada. Corrigan was asked about passenger vessel safety issues that are top concerns for ferry operators at the start of 2024. On an international level he noted work to increase operational safety in developing countries, to make it as safe as ferry service in developed nations. Interferry has a "FerrySafe initiative" that helps operators in various countries. He cited recent program successes in the Philippines. Projects will start soon in Africa.

Regarding fire safety, Interferry has worked closely with the European LASH Fire project which got underway in 2019 and wrapped up its work at the end of August this year.

LASH stands for "Legislative Assessment for Safety Hazards of Fire." LASH Fire was an international research project seeking to significantly reduce the risk of fires on board ro-ro (roll on–roll off) ships. Corrigan said that Interferry's Fire Protection Working Group was a primary source for interaction with the ro-ro industry. He said LASH has published numerous reports and advisories about ways to improve vessel safety.

Corrigan said that one key highlight was evaluating the efficacy of conventional seawater drencher systems in relation to battery electric vehicle (BEV) fires. LASH Fire researchers tested a fixed water-based extinguishing system on a simulated ro-ro deck with a thermal runaway fire in a BEV. This work showed that the drencher system was capable of containing the fire and the conclusion that the overall risk of carrying BEVs should be considered equivalent or lower than that of internal combustion engine vehicles (ICEV), providing the drencher system is correctly operated and designed in accordance with SOLAS (Safety of Life at Sea) demands. Another work product is a 39-page set of recommendations for decision-making about

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Workforce issues remain a top concern for passenger vessel operators.

fire risk and related technical issues.

In the U.S., last February, the Coast Guard issued a Marine Safety Alert: "Saltwater intrusion causes damage to electric vehicle batteries." This Alert followed flooding after Hurricane Ian hit Florida and southeast states. The alert was not specifically directed at passenger vessels but more broadly at vessels, ports and shippers who, the USCG wrote, "should be aware of this extreme risk and avoid loading EVs with damaged lithium-ion onto commercial vessels."

NTSB follows the use and transportation of lithium batteries in all modes, including maritime. Their staff includes fire and hazardous materials investigators that specialize in this Li-battery transportation risks. Gerbis said, "The NTSB routinely works with international investigative partners and attends meetings at the IMO to track Li-battery and other safety issues, particularly in the area of marine fire detection and extinguishment."

In San Franciso, Patrick Murphy is president of the Blue & Gold Fleet, which provides ferry and water excursion services on San Francisco Bay and regular ferry service to Sausalito.

Murphy said B&G does not operate car ferries, so LI-battery safety is not an issue. However, he expects the USCG to issue LI-battery and fire safety guidelines soon. Workforce recruitment, though, "is top of mind for us," Murphy commented. He said B&G is working with union halls and workforce development programs in the City of Richmond and in Oakland. "We have put together a group," Murphy explained, "that has called itself the Working Waterfront Coalition to help recruit and train future mariners and shipyard workers."

In Canada

In Ottawa, the Canadian Ferry Association (CFA) serves as the national voice of the ferry industry. Serge Buy is CFA's chief executive officer. Buy was asked about CFA's top passenger safety issues. He said there is no one, singular issue outstanding right now.

Buy was asked about concerns pertaining to EV batteries and, more generally, the transport of alternately fueled vehicles. In an email he wrote that "lithium batteries and 'alt-fueled' vehicles are a concern. We keep looking at evolving evidence on this issue and look forward to further guidance from the entity that regulates ferry operations in Canada: Transport Canada."

Another top issue, just as in the U.S. – workforce recruitment, which he called a "key issue for ferry operators." He said we either have the staff needed for safe transit – or crossings are cancelled. "I would say that this is the top issue throughout the ferry system in Canada today." One positive step: Transport Canada has signed bilateral agreements to recognize the credentials of seafarers from certain other countries. That's a slow process, however, and Buy added that it isn't fixing the workforce issue.

In 2024, passenger safety will undoubtedly progress along these many different fronts, advancing more quickly in some areas compared to others. The biggest goal: to make this progress deliberate, not something wrenched from the aftermath of an accident or tragedy.

US OFFSHORE WIND: Down but Not Out

By Eric Haun

"The winds of change are blowing wild and free." – Bob Dylan

In the U.S. offshore wind industry, developments over recent months have placed an exclamation point on the word "wild". Yes, the wind still blows "free", but mounting challenges have proven that harnessing its power offshore is anything but. In fact, far from it, as rising materials costs, high interest rates, labor shortages and supply chain delays, among other issues, have delivered heavy blows to the commercial viability of several projects. A number of developers have moved to cancel or seek renegotiated power contracts, slowly pushing President Biden's target of 30 gigawatts by 2030 out of reach.

But just as the winds continue to blow offshore, there are many stakeholders still committed to ensuring offshore wind is incorporated as a growing part of the United States' energy future. While a handful of projects have been derailed, others continue to push forward with plenty more still in the pipeline.

In November 2023, the American Bureau of Shipping (ABS) hosted its fourth annual Offshore Wind Forum in New Orleans, gathering representatives from across many segments of the maritime and offshore industries for a series of panel discussions addressing the U.S. offshore wind industry's current challenges and path forward.

"There is no question about it. The wind industry right

now has some significant challenges. Inflation is definitely one of them," said Jan Sloth Møller, offshore site manager at Ørsted. But he noted that the goals and ambitions held by federal and state governments could create an openness to reevaluate funding arrangements for offshore wind projects in light of new cost increases. "I don't necessarily see that as a problem for the wind operation as a whole," he said.

In the U.S., electricity is very localized, said Tim Axelsson, director of offshore wind at Liberty Green Logistics. "Every state controls its own destiny when it comes to electrical markets: how much it costs, who's going to make it, how you're going to buy it, and what the people that are going to need it are going to pay for it."

"The northeastern states, even with these bumps in the road, are committed to offshore wind development and buying more offshore wind [power]. This crisis that occurred—the COVID crisis, inflation, and interest rates going crazy—it's affected everything and everyone, but [states] are doubling down," Axelsson said. "I see a renewed commitment by the northeastern states to keep going."

Ron MacInnes, president of Seatrium Offshore & Marine USA, acknowledged significant financial risks that are present all the way down the offshore wind supply chain, in the U.S. and abroad, but said the amount of physical progress being made can be taken as a good sign. "There is momentum in the wind market right now," he said. "The fact that there are projects going forward means money's being spent. The fact that vessels are being built and constructed means there's money being spent. The fact that projects, some of these large wind projects, are actually being financed by bank consortiums. I think that's a lot of positives. People are committed to these projects to go forward."

In terms of cost escalations and other "bumps in the road" for offshore wind, Møller pointed to similar challenges that have been experienced in other energy industries, such as coal and nuclear power. "And if we go back to before the COVID crisis at least, then [offshore wind was] compatible or have even surpassed the levelized cost of energy (LCOE) of fossil fuels. . . I say we are still in pretty good shape."

Jamie Lescinski, director of business development for U.S. offshore wind at Boskalis, said the industry has come a long way in the last three to five years and that there's likely more progress on the horizon. "We're going to see a natural maturation of the market, where it's going to swing

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back the other way, become more mature, more stable, more evenly distributed, basically, with your risk profiles, which is what we all need."

The first wind farms were built in Europe more than 15 years ago, Lescinski said, and it took a long time to achieve mass scale, producing levelized costs that are coming down. "That's a long road to go down. And you're also facing this in the middle of this crazy inflation and supply chain market," she added. "Seeing costs start to levelize in Europe is a very good sign for the rest of the world while scaling up."

Another market factor currently weighing on U.S. offshore wind is the price and availability of vessels, including both existing tonnage and newbuilds. Once again, economics is an issue.

Vessel owners need firm, long-term contracts to ensure any new vessel they order will be profitable, especially given the soaring costs for new construction. "It's a lack of revenue certainty that [prevents] vessel owners like Liberty from going out and building fleets," Axelsson said. "[Developers] don't want to hire the vessel for five years if [they] only need it for two or three. . . The sustainable vessel ownership perspective is revenue certainty and knowing that supply chain, that project pipeline, is going to exist, but you're still competing. Chicken and egg, as always. Who's going to start building these things? Well, who's going to give me a contract?"

In some cases, existing vessels can be used as a more financially viable option. Josh Diedrich, managing director at WindServe Marine, said this is already being done with great success.

"The American fleet has a lot of really talented mariners who are able to use these existing vessels that are converted with a walk to work gangway and some additional accommodations. And they're getting the job done," he said. "If you look on AIS, you'll see the data this past year for all the Jones Act vessels that have been worked on the two major projects offshore. And you just see day after day, the vessels are out there, they're working. . . I don't think there's as much downtime with the vessels as people thought there would be."

Cost is still an issue though for vessels such as offshore support vessels (OSV), which have seen their charter rates rise due to a strengthened offshore oil and gas sector. The cyclic up and down of oil and gas markets directly affects

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vessel rates, and these impacts are felt more strongly in the U.S. than they are in Europe, Møller said. "Now we are paying the premium, because the oil market is high. But going further down, probably oil market is going to take a turn again and our business will become equally cheap, because we are connected to the oil market much more here in the U.S. than we are in Europe."

"The oil and gas market is really picking up. It's using up a lot of those vessels," MacInnes said, noting that many OSVs were scrapped amid weak activity during the years of the pandemic, leading to shortages—and higher rates—in today's strong market. "When COVID came, there was no work. We had to scrap all these vessels. Now we look back, we wish we had more of those vessels."

Regulatoy Update

Changes to MARAD's Title XI: Good News for Offshore Wind?

By Eric Haun

The U.S. Department of Transportation's Maritime Administration (MARAD) in December issued a final rule updating its financial requirements for the Federal Ship Financing Program, commonly referred to as Title XI. While the move applies to the U.S. maritime industry as a whole, it is seen as especially helpful for players looking to serve the U.S. offshore wind sector.

Designed to promote the growth and modernization of the U.S. merchant marine and U.S. shipyards, Title XI provides for a full faith and credit guarantee by the U.S. government. The program essentially aims to encourage U.S. shipowners to obtain new vessels from U.S. shipyards cost effectively through long-term debt repayment guarantees. It can also be utilized by U.S. shipyards to help modernize their facilities for both vessel repair and new construction.

Charlie Papavizas, partner and chair of the maritime practice at law firm Winston & Strawn, explained, "Title XI refers to the title with number in the Merchant Marine Act, 1936 whereby the U.S. government, as amended in 1972, offered to guarantee the private financing of vessels built in the United States meeting certain conditions. In 2019,

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MARAD converted the program to a government loan program with the Federal Financing Bank as the lender."

The repayment term and interest rates available under the program and generally better than those available from the commercial lending market. "The main advantages of government financing are a favorable interest rate, the potential to cover up to 87.5% of the vessel costs and a potentially long period of loan amortization extending to the life of the vessel," Papavizas said.

But there are also drawbacks. Papavizas said, "The main disadvantage of the program is the substantial application processing time. MARAD's website indicates, for example, that ECO Edison, LLC submitted an application that was accepted by MARAD in September 2022 for a service operation vessel (SOV) that has been approved but has not yet closed."

As of early February, the status of ECO's $90 million loan request is listed as "letter commitment issued; awaiting guarantee closing".

Companies within the offshore wind sector that have applications completed and currently under review include Windea CTV ($104 million for 10 crew transfer vessels (CTV)), Great Lakes Dredge & Dock ($215,862,500 for a subsea rock installation vessel (SRIV)), and Offshore Wind Support, LLC [Edison Chouest] ($95,156,250 for an SOV). Crowley's application is listed as submitted and under deficiency review ($146,475,743 for an SOV). Title XI applications have also been submitted for several other non-wind vessels and shipyard upgrade programs.

Recent changes

The recent final rule, which became effective 30 days after publication in the Federal Register (docket number MARAD-2023-0086), "establishes modern financial performance as well as initial and continuing creditworthiness criteria for Title XI loan guarantees", MARAD said, noting that the rule will also provide applicants with more flexible repayments terms, aligning program regulations with the best practices of maritime industry lending and federal credit.

Philip Lewis, director of research at business intelligence and consulting firm Intelatus Global Partners, said, "The amendments respond to concerns that previous terms acted as a barrier to some companies seeking to apply for Title XI support. In short, the tests that measure that the borrower has 'a reasonable prospect' of repaying the debt have been updated to align with other federal programs and general industry practice."

Papavizas said the move addresses the issue of rigid financial qualification criteria. "In particular, pre-existing MARAD regulations require borrowers to have no more than a two to one long term debt to equity ratio," he said. "MARAD determined that these criteria were not in line with criteria utilized in other federal financing programs and has replaced them with the requirement that a borrower 'must demonstrate financial performance that supports a reasonable prospect of repayment taking into account foreseeable negative economic conditions'. Moreover, MARAD would not have had discretion to consider certain subordinated debt as equity whereas now it will have that ability."

By introducing greater flexibility to the regulations governing the Title XI program, MARAD said it will be able to adapt the terms of new loan guarantees according to the risk profiles of particular projects. MARAD believes the changes will help "attract a higher volume of high-quality applicants and mitigate risk to the U.S. government".

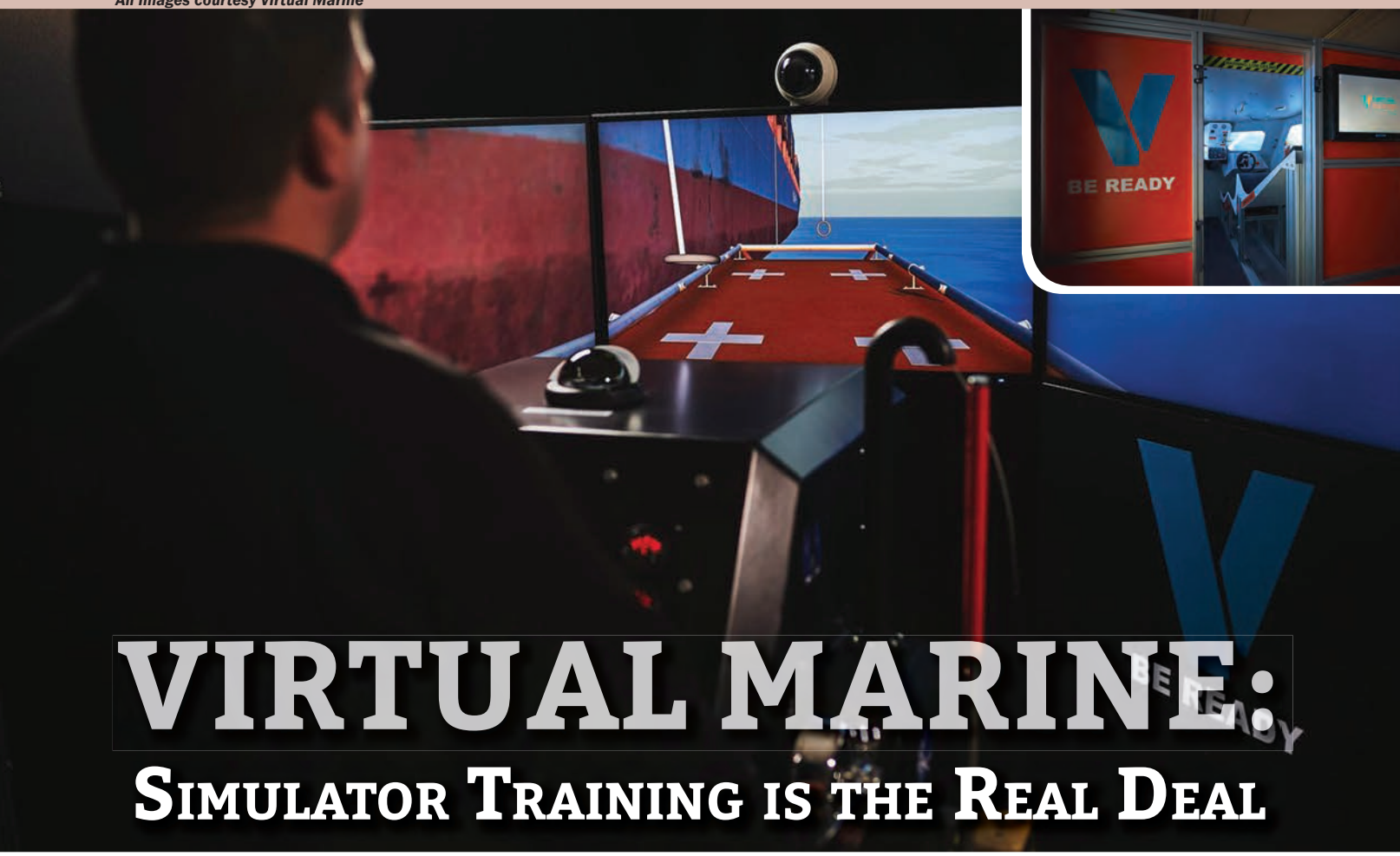
Offshore wind

The Title XI program is of particular importance for the U.S. offshore wind industry. In June 2022, MARAD designated vessels used in construction, service and/or maintenance of offshore wind facilities as "vessels of national interest", giving these applications processing priority for Title XI support.

"Designated vessels are supposed to receive loan processing priority," Papavizas said. "Since Title XI depends on appropriations to fund MARAD's loan reserves and those appropriations are limited, such priority can be meaningful."

While the Title XI update could be a boost for offshore wind vessel construction, at the end of the day, the market is still waiting for projects to move forward before ordering ships. "As a result of the amendments, there is hope that the conditions exist for additional domestically built offshore wind vessels to be committed," Lewis said. "However, vessel owners are often waiting for project developers to make final investment decisions and offer owners mitigation for vessel redeployment risk."

All images courtesy Virtual Marine



VIRTUAL MARINE:
Simulator Training is the Real Deal

By Eric Haun

In the commercial maritime and offshore industries, where worker safety and competency are crucial, effective training practices are an absolute must. While hands-on, in-the-field learning will always be a vital component of any mariner's training, marine simulation has become a welcome enhancement to the education process. And in some cases, it's seen as a safer alternative to traditional survival craft and rescue boat training.

A leader in this space is Virtual Marine, based in Newfoundland and Labrador. Founded 20 years ago, the marine technology company has been a pioneer in revolutionizing training methodologies through immersive simulation technologies.

A legacy of innovation

Virtual Marine's journey began two decades ago with a singular vision: to leverage digital technologies to enhance the effectiveness of maritime training and, ultimately, improve crew safety. The company built its first simulator for the Hibernia field offshore Newfoundland as a direct result of the Ocean Ranger sinking in 1982, which resulted in 84 lives lost. A Canadian Royal Commission report concluded that a main factor leading to the tragic incident was insufficient training at many levels, including lifeboat coxswain training.

The company has since been at the forefront of lifeboat coxswain training as well as fast rescue boats and ice management simulators.

"We enable workers to develop critical worksite-specific competencies by engaging them in challenging simulation training programs," said Clayton Burry, vice president of sales at Virtual Marine. "We've been involved heavily in the research associated with simulation as well, so we've been able to prove simulation systems to be a much safer and more effective form of training."

Burry said the company's simulators are deployed globally, from ships and oil rigs offshore to land-based installations in training academies and elsewhere.

In addition to building the simulators, Virtual Marine owns and operate a series of training centers, including three in the Americas: Newfoundland, Broussard, La. and Robert, La.

Harnessing the power of technology

Over the years, Virtual Marine has witnessed significant advancements in technology, particularly in virtual reality, graphics processing power and machine learning. Burry highlighted the pivotal role of machine learning in shaping the future of training. By analyzing data collected from over 160 lifeboat simulators, Virtual Marine enhances training effectiveness and provides valuable insights.

"That data is really important to our customers because they want to know, 'How effective are our coxswains? Are they gapping anywhere where we need to focus? Where are they excelling? How can we dashboard that information?'" Burry said, "The knowledge that we've gained from our training scenarios is being used to improve our curriculum development. It's also feeding artificial intelligence and machine learning algorithms, which underpin predictive decisions."

Among a number of research programs ongoing at Virtual Marine is the development of a new system leveraging AI and machine learning to provide decision support for offshore operations.

Burry illustrated this with an example: "Perhaps there's a storm that's been predicted to hit an offshore field," he said. "Our system can analyze crew training records and recommend specific training exercises to prepare for potential emergencies, mitigating risks and ensuring readiness."

Expanding horizons

Virtual Marine's commitment to innovation extends into other parts of the industry as well. In the passenger vessel sector, the company recently collaborated with BC Ferries to develop technology that is first-of-its-kind globally.

"We enable workers to develop critical worksite-specific competencies by engaging them in challenging simulation training programs."

– Clayton Burry, Vice President of sales at Virtual Marine

"BC Ferries had an objective to improve the safety and competency of their workers in what's normally a very stressful environment," Burry said. "One of the big things that they were trying to guard against was the risk of injury to their personnel, resulting from live boat launches."

Virtual Marine and BC Ferries came together to develop a custom solution. "At the heart of it, it's really a rescue-boat simulator, together with a new custom-launch and recovery configurations to match all of the vessels in their fleet. . . And as part of this project, we developed what is, in fact, the world's first marine evacuation system simulator."

Without simulation, opportunities to train on marine evacuation systems are few and far between, basically only coming along when the system becomes outdated and needs to be replaced. "With our simulator, you can train for that every day. Even the manufacturers of those systems see the potential for this. So, I think that's going to be an important play for us," Burry said, pointing to strong potential in the cruise and ferry industries.

The final delivery for BC Ferries includes a dozen 22-foot trailers full of simulators, which the ferry operator has been deploying to various sites where they can do mobile training. "They'll have a crew coming off a ferry at a certain terminal, for example, and before they go home or maybe on their way to work, they go into the trailer and perform a series of training scenarios," Burry said.

Pioneering regulatory change

Virtual Marine's impact extends beyond technology development. The company has played a pivotal role in driving regulatory change, particularly in advocating for the use of simulators in maritime training.

"As the pioneer and initial developer of the lifeboat simulator, and currently the market leader in that area, we have effected a lot of regulatory change," Burry said. "We were the ones who started the process of getting simulation for lifeboat training at the DNV level, and we were the first ones there with a DNV certificate at the International Maritime Organization (IMO)."

Burry emphasized the significance of recent changes at the IMO, which now allow for simulator-based training in lieu of live lifeboat launches, offering more flexibility and enhancing safety.

All images courtesy Virtual Marine

- On February 9, 2023, the IMO sub-committee on Human Element, Training and Watchkeeping (HTW) ratified revisions to the model course 1.23 on Proficiency in survival craft and rescue boats other than fast rescue boats - PSCRB 1.23 (Lifeboat) and PSCRB 1.24 (Fast Rescue Boat).
- Those changes resulted in a significant change to how lifeboat and FRB training can take place.
- Now, those following the PSCRB Model Courses have the choice of using approved simulators to replace elements of lifeboat and FRB training that had previously specified the use of real boats.
- Elements of the practical drills and exercises related to the launch, recovery, operation and maneuvering of lifeboats and rescue boats may be conducted using simulation, provided that some additional facilities and equipment are available.
- IMO published the official new Model Courses in January 2024.

On the lifeboat side, both initial and refresher training can be conducted using simulators only. On the rescue boat side, simulators can be used for refresher training only. The next step is for flag state regulators to approve the model courses.

"These changes now mean that marine training schools have a choice of either using real-life boats and rescue boats or using simulators," Burry said. "This is a big change, and we've seen a market shift already, even ahead of the approvals by the U.S. Coast Guard and others elsewhere around the world. Everybody's looking at this now and saying, 'Hey, we know it's coming.'"

Crowley's All-electric Harbor Tug eWolf Delivered

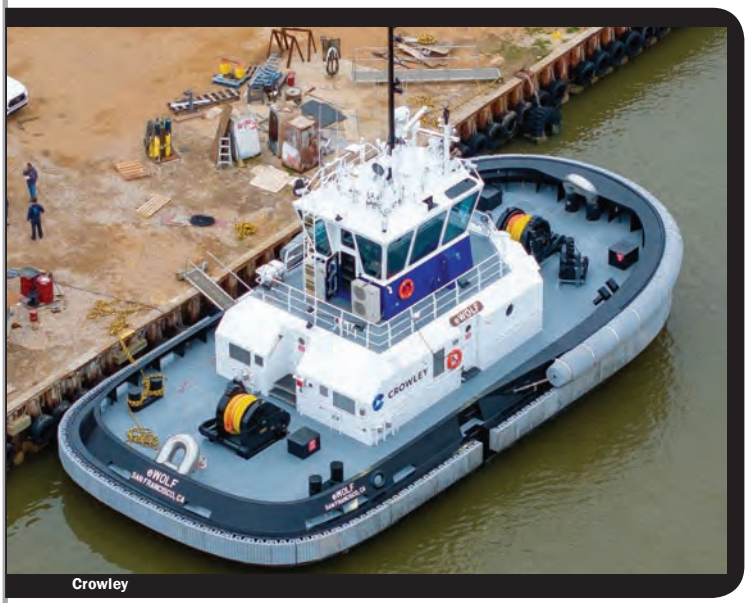
By Eric Haun

Crowley has taken delivery of its groundbreaking vessel eWolf, the first all-electric, ship assist harbor tugboat in the United States.

The 82-foot tug, designed by Crowley's engineering services team and built by Coden, Ala. shipbuilder Master Boat Builders, was handed over in January and will enter service at the Port of San Diego this spring following final demonstration trials and completion of Crowley's microgrid shoreside charging station. The vessel will operate with zero emissions while providing the complete performance capabilities of a traditional tug, Crowley said.

"The eWolf will provide services through its advanced vessel control technology and first-in-class energy features, while providing the safety, quality and reliability that Crowley and our mariners are known for," said James Fowler, senior vice president and general manager of Crowley Shipping. "We are thrilled to reach this important achievement for our company and the U.S. maritime industry through the collaboration with our partners."

"The eWolf demonstrates where the maritime industry can go, in terms of both innovation and sustainability, with solid partnerships between owners, designers, suppliers and shipyards," said Garrett Rice, president of Master Boat Builders. "We are proud to have partnered with Crowley in the construction of the eWolf and look forward to seeing her at work in San Diego very soon."



Crowley

The eWolf is designed to operate on full electric power, producing zero carbon emissions and expected 70 ton bollard pull strength. The vessel is equipped with an integrated electrical propulsion package provided by ABB, a 6.2 MWh Orca battery energy storage system from Corvus Energy and two electrically driven Schottel RudderPropellers type SRP 430 LE (2,050 kW each) featuring propeller diameters of 2.5 meters. The vessel also has two small generators on board for emergency use and to enable long distance transits at a reduced speed.

The tug's battery system will be charged at a specially designed shoreside station featuring two Corvus Orca BOBs (battery on board), the containerized version of the Corvus Orca ESS.

The vessel is designed to ABS class and compliant with U.S. Coast Guard Subchapter M regulations.

To bring the eWolf to life, Crowley partnered with the San Diego County Air Pollution Control District, the California Air Resources Board (CARB), the Port of San Diego, the U.S. Environmental Protection Agency (EPA) and the U.S. Maritime Administration (MARAD), which all provided financial support and other resources.

Vessel owners and operators are increasingly considering hybrid and fully electric vessels as part of efforts to reduce emissions.

Crowley said the eWolf will generate 178 tons less of nitrogen oxide (NOx), 2.5 tons less of diesel particulate matter and 3,100 metric tons less of carbon dioxide (CO2) over the first 10 years of its operations – the equivalent of removing 350,000 gallons of gas from use, according to EPA calculations.

Crowley in 2021 announced its commitment to reach net-zero emissions across all scopes by 2050. The Jacksonville, Fla.-based company estimates it will reduce overall emissions by 4.2 million metric tons of greenhouse gases per year.

Next WSF Vessels Could Be Built Outside of Washington State

By Eric Haun

The next newbuilds for Washington State Ferries (WSF) could be built by a shipyard outside of Washington as the state seeks to accelerate its ferry electrification program.

The Washington State Department of Transportation's (WSDOT) WSF in early December issued a request for information to the shipbuilding industry across the country as part of its effort to contract for five new hybrid-electric Olympic-class ferries. Responses were due in January and will provide critical information for the Invitation for Bid in spring 2024, the agency said.

Washington state law previously required all WSF newbuilds to be constructed by shipyards within the state, but new legislation passed earlier this year allows WSDOT to solicit bids nationwide, clearing the agency to potentially contract with multiple shipyards—either inside or outside Washington state—to accelerate delivery after the program fell behind schedule. WSDOT is now aiming to have the first two vessels delivered by spring 2028.

The contract or contracts must be for a minimum of two vessels, with options for up to five vessels in total. WSDOT is required to award a credit of 13% of the bid price for bid proposals for vessels constructed in the state of Washington.

The WSF ferry system, the largest in the country, is being converted to hybrid-electric power by 2040 following mandates from the Washington legislature and governor. WSDOT said its transition to a hybrid-electric ferry fleet aims to slash emissions as well as operations and maintenance costs while boosting fleet resiliency.

The nearly $4 billion WSF electrification plan calls for the delivery of 16 new hybrid electric vessels by 2040.

Washington shipbuilder Vigor was originally tapped in 2019 to design and build up to five 1,500-passenger, 144-vehicle hybrid electric Olympic-class ferries, but WSDOT opted in 2022 to relaunch the competitive bid process following disagreements with the shipyard over price and other contract terms.

In addition to the newbuild program, shore charging will be added to 16 WSF terminals and six existing WSF vessels are being converted to hybrid-electric power. Earlier this year, Vigor was awarded a contract to convert up to three of WSF's Jumbo Mark II class ferries to hybrid-electric power.

Vessels

HOS Warhorse & HOS Wild Horse

HOS

Panama City Fla. based Eastern Shipbuilding Group has been awarded a contract to complete construction of two ultra high-spec 400 class multipurpose support vessels (MPSVs) for Hornbeck Offshore Services (HOS).

The newbuilds were originally started by Gulf Island Shipyards in Houma, La. before Hornbeck terminated the contracts in 2018 over what it described as "performance issues". Gulf Island then sued Hornbeck, claiming the two shipyard construction contracts were wrongfully terminated. Gulf Island and Hornbeck settled in October 2023, clearing way for the builds to be completed by another yard. Eastern secured the contract to complete the builds from Zurich American Insurance Company, the issuer of the performance bonds for the original MPSV contracts.

"The vessel structure is mostly complete with the vast majority of the mechanical, electrical and other outfitting work not completed," Jessica Ditto Eastern's VP of communications told *Marine News*.

Scheduled for delivery in 2025, the Jones Act-qualified MPSVs HOS Warhorse and HOS Wild Horse will each be equipped with two large heave-compensated cranes, two remotely operated underwater vehicles (ROV), a spacious moonpool and accommodations for 102 personnel.

Yankee Freedom IV


Incat Crowther

Key West, Fla.-based Yankee Freedom has ordered a new 300-passenger, high-speed catamaran from Gladding-Hearn Shipbuilding, Duclos Corporation for passenger service between Key West and the Dry Tortugas National Park. The new vessel will replace Yankee Freedom III, a 250-passenger catamaran built for the 70-mile run by the Mass.-based shipyard in 2012. Delivery of Yankee Freedom IV is planned for 2026.

The new larger all-aluminum catamaran, designed by Incat Crowther, will measure 112.5 feet (34.3m) long, 31.6 feet (9.65m) at the beam, and will draw 6.9 feet (2.13m). It will be powered by a pair of MTU 12V-4000M65R EPA Tier 4-compliant diesel engines, each delivering 2,000 Bhp at 1,600 rpm and turning Ni-Br-Al propellers. The twin gearboxes will be ZF model 8000. The ferry will be equipped with an Atlantic Detroit Diesel-Allison, 80kW EPA Tier 3-approved genset with the addition of exhaust gas treatment. A Humphree active interceptor ride control system will be installed to control vessel pitch and roll. Top speed will be over 28 knots, with a deadweight of 29.5 tonnes.

US Virgin Islands Ferry


Incat Crowther

Franklin, La. shipbuilder Gulf Craft LLC in November kicked off construction on a new passenger ferry for the U.S Virgin Islands. The USCG Subchapter-K approved, 104-foot vessel will service the tourist and commuter route between Red Hook on the island of St. Thomas, and Cruz Bay on the island of St. John, with capacity for up to 300 passengers. Incat Crowther said it designed the simple yet stylish new ferry with accessibility and an elevated customer experience in mind. Capable of speeds up to 28 knots, the vessel will also be fitted with the dual MTU 12V-4000M65R main engines, John Deere gensets and diesel engine emission control technologies in compliance with EPA Tier 4.

WINDEA Intrepid & WINDEA Courageous


St Johns Ship Building

The first two newbuild crew transfer vessels (CTV) for WINDEA CTV—a US based joint venture owned by MidOcean Wind LLC and Hornblower Wind LLC—have been delivered. WINDEA Intrepid, built by Louisiana-based shipyard Gulf Craft, and WINDEA Courageous, built by St Johns Ship Building in Florida, are the first in a series of five identical Incat Crowther-designed, BV-classed CTVs for WINDEA CTV. The third and fourth vessels are under construction at St Johns, and construction of the fifth vessel is well underway at Breaux Brothers in Louisiana.

At 30 meters long, the CTVs are the largest built in the U.S. to date. The USCG Subchapter L-certified vessels are capable of transporting 24 technicians and up to six crew. Each vessel features a 100m2 forward deck and a 35m2 aft deck for carriage of cargo to offshore wind installations. Each vessel has the capability of transporting a deadweight of 50 tonnes. Powered by four Volvo Penta D13 marine diesel engines with a quad IPS system, each vessel is also ready for the retrofit of the Volvo parallel hybrid system.

Anthony J. Celebrezze


Derecktor Shipyards

The Great Lakes Towing Company (GLT) acquired a 62-year-old fireboat from the city of Cleveland, Ohio. The vessel, Anthony J. Celebrezze, was constructed in 1961 by Paach Marine in Erie, Pa. and was used by the Cleveland Fire Department until it was replaced with a new vessel, Garret A. Morgan, in June 2023 and put up for auction. Auction data shows the vessel was sold on November 14 for just over $41,000, including a 12.5% buyer's premium.

GLT said its Great Lakes Shipyard division is very familiar with the Anthony J. Celebrezze's systems and operation, having provided drydocking, maintenance and repair services to the vessel for decades. The 61-foot twin screw, 600 HP tug is equipped with four Detriot Diesel engines, two fire pumps and five monitors, providing a total of 6,000 gallons per minute of off-ship firefighting capacity.

GLT said it intends to utilize the vessel as a firefighting platform for response to shipboard or shoreside fires, particularly in ports where a high volume of winter ship repair work is performed. The company noted it can also utilize the fireboat to respond to fires aboard vessels that are underway.

AFD Fireboat


Moose Boats

Vallejo ,Calif. boatbuilder Moose Boats has delivered a new fireboat to the Alameda City Fire Department (AFD) located in Alameda County, Calif. According to the builder, the new Moose M2-38 fireboat is the most powerful ever assembled, running on twin Cummins turbo charged QSB 6.7L 480HP engines with Twin Disc Transmissions and Hamilton HJX 29 waterjets. The catamaran can reach speeds up to 38 knots with a cruise speed of 30 knots. The vessel is equipped with two large Darley 2000 GPM fire pumps powered by PTO systems that enables full control at the helm while flowing close to 5,000 GPM, an amount of water usually only seen in the 50 foot or larger vessel class.

People & Companies

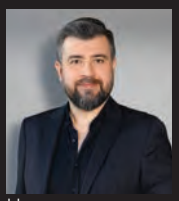

Rella


Barton


Leichtfried


Ballard


Richardson


Uz


Daniels


Wiltshire


Menoyo


Courtney


Bellerud


Cribley

Rella Hired as St. Johns President

Joe Rella has been appointed as president of St. Johns Ship Building.

Barton Named Vineyard CEO

Vineyard Offshore named Alicia Barton as its new CEO.

Leichtfried to Head Danfoss Drives N. America

Hannes Leichtfried has been appointed head of sales and marketing for the Danfoss Drives business segment in North America.

New Leadership at Mustang Survival, Wing Group

Kenny Ballard has been appointed Mustang Survival's new president, while Lance Richardson takes on the newly created role of VP manufacturing and innovation for the Wing Group, Mustang's parent company.

Uz Named MD at elkon

In addition to his present and continuing role as managing director of SCHOTTEL Turkey, Seçkin Uz has been appointed managing director of SCHOTTEL's sister company elkon.

Daniels Named Director at Port of Baltimore

Jonathan Daniels has been named executive director of the Maryland Department of Transportation's Maryland Port Administration.

Wiltshire Leading Port Everglades

Glenn A. Wiltshire has taken over as acting director of Broward County's Port Everglades Department.

New Leadership at Aker Arctic

Aker Arctic has appointed Mika Hovilainen as interim managing director and CEO following the departure of CEO Reko-Antti Suojanen.

Menoyo Joins Great Lakes Towing

The Great Lakes Towing Company has hired Salvadore Menoyo for its business development team.

HII Promotes Courtney

HII has promoted Peter Courtney to corporate VP of legislative affairs, and Betsy Bina Benedict will join HII to serve as the director of legislative affairs.

Port of Corpus Names Bertolami CFO

The Port of Corpus Christi has appointed Cindy Bertolami as its new CFO. Bertolami succeeds Kent Britton, who was appointed CEO in September.

Bellerud Named COO of Northwest Seaport Alliance

The Northwest Seaport Alliance has named Jeff Bellerud as chief operating officer.

Cribley Returns to C-I

Edison Chouest Offshore affiliate C-Innovation welcomed back Lucas Cribley as its new business development manager.

Products

1 In-Mar Solutions

2 VETUS Maxwell

3 Volvo Penta

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.inmarsystems.com

2. Heavy Duty Windscreen Wiper

Heavy-duty wiper has a thermal cut-out in case of excessive operating temperature. Self-parking on either side, 2 speeds/2 shaft lengths. Fully adjustable wipe from 62º - 92º. Stainless steel parts and meet EMC requirements. 12 or 24 VDC.
https://vetus.com/usa/

3. IPS Professional

Volvo Penta unveiled a new propulsion offering for superyachts and commercial marine vessels, slated for commercial availability from 2025. The flexible, fully integrated helm-to-propeller solution, called IPS Professional Platform, enables a vessel to have up to eight power sources, and includes matched software, services and support, all integrated via the company's proprietary EVC technology. Installed as a twin, triple or quad, the system enables each vessel to have four to eight power sources – from combustion engines running on renewable fuels such as HVO or renewable diesel to fully electric or hybrid solutions. A new smart Eco Mode feature automatically starts/stops individual engines based on power needed for a given situation.

4. SPx Radar Trainer

Cambridge Pixel has unveiled a new software package to aid in the instruction and learning of the proper usage of maritime radars. SPx Radar Trainer is designed to make it easier for students to familiarize themselves with radar controls by providing a modern simulation of a typical radar display, supported by chart and 3D environment views. It includes custom scenario creation for instructors and runs in a browser window for ease-of-use.

5 Seakeeper

5. New Gyrostabilizers

Seakeeper has launched two new gyrostabilizer models. The Seakeeper 10.5, engineered for boats 50-62 feet, evolved from its two predecessors, the Seakeeper 9 and the inaugural M7000 and offers 17% more angular momentum in 23% less volume. The Seakeeper 14, suited for boats 55-68 feet, bridges a gap in the current lineup between the Seakeeper 9 and the Seakeeper 18. The new model is 43% smaller and 33% lighter than the Seakeeper 18. Compared to the Seakeeper 9, the Seakeeper 14 offers 56% more gyroscopic power in just 4% more overall volume.

2024 Editorial Calendar

Marine News

January 2024

E-Magazine Edition

Design & Construction: Advances in Naval Architecture, Marine Engineering & Shipbuilding

February 2024

U.S. Offshore Wind

- Passenger Vessels
- Mariner Training & Education
- Safety Equipment

Event Distribution:
CMA: Mar 12-14, Stamford, CT

March 2024

E-Magazine Edition

U.S. Inland Waterways Transport: Operations, Infrastructure & Dredging

April 2024

Towboats, Tugs & Barges

- 2024 Shipbuilding Report
- Navigation Technology
- Power & Propulsion

Event Distribution:
OTC: May 6-9, Houston, TX

May 2024

E-Magazine Edition

U.S. Maritime Workforce: From Offshore to Inland Waterways & Shipyards

June 2024

Combat & Patrol Craft

- Navy & Coast Guard Shipbuilding
- Autonomous Vessels
- Workboat Communications Wind

Event Distribution:
Multi-Agency Combat Craft (MACC)
Marine Money Week, New York, NY

July 2024

E-Magazine Edition

The Green Marine Annual: Improving Environmental Performance & Efficiency

August 2024

Boatbuilding & Repair

- Naval Architecture & Marine Engineering
- Shipyard Equipment
- Dredging

Event Distribution:
SMM 2024, Hamburg, Germany

September 2024

E-Magazine Edition

Fast Craft: Patrol, Fire, Police, Pilot Boats & Ferries

October 2024

Vessel Repair & Conversion

- Offshore Energy
- Electrification & Alternative Fuels
- Deck Machinery & Cranes Autonomous

Event Distribution:

November 2024

Workboat Edition

- Top Vessels of 2024
- Top Tech & Service Innovations of 2024
- U.S. Shipyards

Event Distribution:
Int'l Workboat Show: Dec, New Orleans, LA

December 2024

E-Magazine Edition

Power & Propulsion: Technology Spotlight

Marine Marketplace

VESSELS FOR SALE / BARGES FOR RENT

NEW PRODUCTS

NEW PRODUCTS

ADVERTISER INDEX

Page	Company	Website	Phone#
27	Ahead Sanitation	www.aheadsanitationsystems.com	(337) 330-4407
25	All American Marine	www.AllAmericanMarine.com	(360) 647-7602
7	Caldwell Lifting Solutions	www.caldwellinc.com	(800) 628-4263
9	CMA Shipping 2024	www.cmashippingevent.com	Visit us online
3	Crowley	www.crowley.com/wind	Please visit our website
C2	David Clark Company	www.DavidClarkCompany.com	(800) 900-3434
15	Electric & Hybrid Marine World Expo	www.electricandhybridmarineworldexpo.com/usa/en/	Visit us online
31	Environmental Marine Inc.	www.ENVMAR.com	(606) 271-2711
19	Gladding Hearn	www.gladding-hearn.com	(508) 676-8596
C3	Intelatus Global Partners	www.intelatus.com	(202) 964-0447
1	Marine Systems, Inc	www.marinesystemsinc.com	(985) 223-7100
37	McDonough Marine Service	www.mcdonoughmarine.com	(504) 780-8100
7	NOAA/Eastern Region Acquisition Division	MarinerHiring.noaa.gov	(833) 724-5872
C4	R.W. Fernstrum & Company	www.fernstrum.com	(906) 863-5553
5	Thordon Bearings	www.thordonbearings.com	Please visit our website

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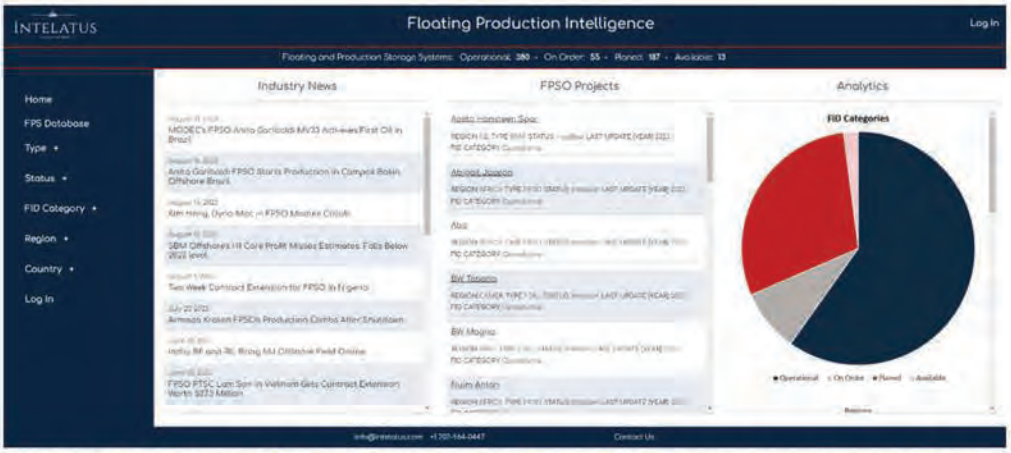

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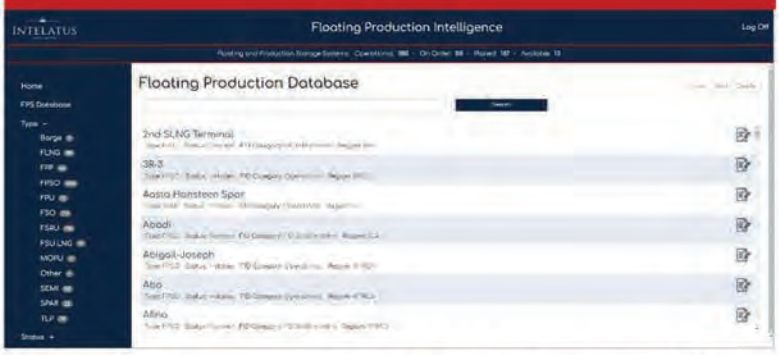

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