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Volume 37 • Number 7

Marine News

JULY 2026

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Dredging

Jones Act Waiver, Outdated Environmental Laws Hamper the Industry

Shipbuilding
The U.S. Shipping Merry-Go-Round

Great Lakes
A Canadian Toll on U.S. Commerce

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Chick Sexing, Wire Rope & AI

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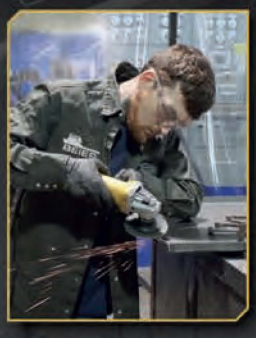

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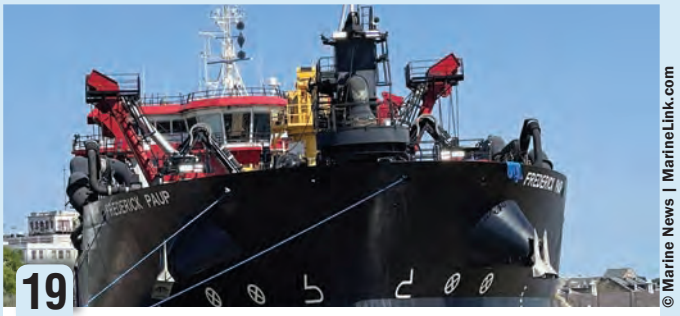

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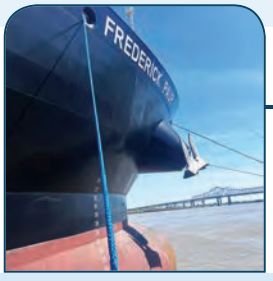

On the Cover

Earlier this year, Frederick Paup, a 15,000-cubic-meter trailing suction hopper dredge built for Manson Construction, was christened in New Orleans.

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Editor's Note

Greg Trauthwein, Editor,
trauthwein@marinelink.com

While many sectors of the maritime market – ie. all things Navy, Coast Guard + autonomous vessel design and construction – continue to move at warp speed, the promise of the Trump Administration's 'Maritime Renaissance' continue to miss a dynamic and critical sector of the U.S. market: small- and mid-sized boat commercial builders and operators, including the supply chains that feed them.

To put it in perspective, I've been in this maritime editorial seat since August 1992 when I joined sister-publication *Maritime Reporter & Engineering News* as managing editor. The early '90s were generally a bleak time for much of the U.S. commercial maritime market, which was still hungover from the after effects of the Reagan-era '600-Ship Navy' plan and was in the midst of an oil price crash and the loss of the staple offshore oil and gas business in the Gulf. Long story short, when President Reagan pushed for a 600-ship navy, the majority of U.S. maritime entities dropped much commercial maritime design and build work to help feed the high-ticket U.S. Navy business. But when the plug was pulled on the navy build up – driven by the demise of the Soviet Union and end of the Cold War – the U.S. industry found that the processes involved in serving navy contracts did not readily transfer to commercial competitiveness. Fast track to 2026 and you will find many similarities and differences. While the push for resources for navy and defense work is real, there are many technology companies entering the boatbuilding space that are effectively reshaping the landscape. Take autonomous boat platform Saronic, for example: Saronic is a tech start-up that has raised more than $2.5B to date, leveraging that capital to quickly ramp-up its manufacturing footprint, including a massive 500,000+ sq. ft. campus optimized for the assembly line-style production of its smaller 24-ft. Corsair ASVs; the acquisition of the former Gulf Craft shipyard in Franklin, Louisiana, 100-acres plus a massive $300m facility expansion to focus on prototyping and manufacturing larger vessels; and last but not least, Port Alpha, its long-term plan to develop a next-generation autonomous shipyard. A most interesting point on the company made by **CEO Dino Mavrookas** during our late 2025 interview: while it is gunning for Navy work, its taking a 'commercial first' approach.

The focus on Saronic is neither praise nor endorsement, rather a powerful example of the the people, companies and trends driving U.S. shipyards today. What this all looks like 10, 20, 30 years from now … your guess is as good as mind. But when we're all done and dusted, the mid-2020's will be viewed as a watershed moment in U.S. maritime history.

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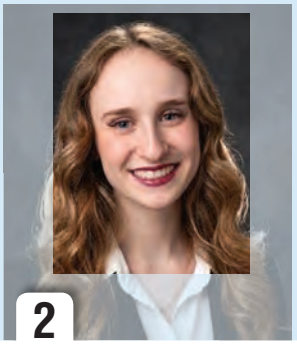
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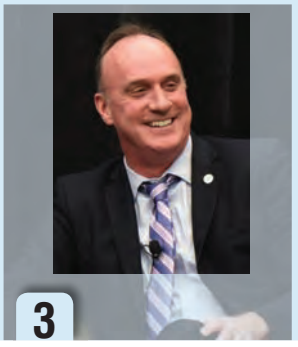
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OpEd

Leading Off

A Canadian Toll on U.S. Commerce

By Capt. Paul C. LaMarre III

The Administration has made American manufacturing, shipbuilding, and supply chain resilience national priorities. The Great Lakes region is home to steel, autos, agriculture, energy infrastructure, defense suppliers, and advanced manufacturing. The St. Lawrence Seaway carries maritime commerce into that region.

Recent events in the Strait of Hormuz have reminded policymakers and the public that maritime transportation matters. Strategic waterways matter because transportation costs matter. Every additional cost imposed on cargo movement affects trade flows, investment decisions, and economic competitiveness.

One such cost receives far less attention closer to home. Canada collects tolls on cargo moving to and from U.S. Great Lakes ports, while the United States provides toll-free access through its portion of the same route.

Ocean vessels traveling between the Atlantic Ocean and U.S. Great Lakes ports must transit both U.S. and Canadian locks and channels. The United States and Canada built the St. Lawrence Seaway together. The United States has invested billions of dollars in the Seaway and Great Lakes navigation system and continues to do so through the construction of the new Soo Lock, one of the largest inland navigation infrastructure projects in the nation. Congress waived collection of the U.S. share of commercial tolls in 1986 and directed the federal government to pursue dis-

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cussions with Canada to reduce or eliminate Seaway tolls. Four decades later, the United States continues to provide toll-free access through its portion of the system while Canada continues to collect its share.

That difference harms U.S. Great Lakes ports. Canada earns revenue from cargo moving to and from American ports while the United States provides access through its portion of the system without imposing a comparable charge. The revenue is small in the Canadian economy. The cost to vessel operators and cargo owners can reach hundreds of thousands of dollars per voyage.

The Seaway has physical limits, and not every vessel can use it. For vessels that can use the system, Canadian tolls increase the cost of reaching U.S. Great Lakes ports. Bulk commodities, steel, grain, project cargo, breakbulk cargo, and other industrial cargo already move through the Seaway on vessels built for its dimensions. Feeder-scale container service into the Great Lakes remains a practical growth opportunity. Canadian tolls add a cost that makes existing cargo harder to retain and new service harder to build.

Canadian tolls also make the route harder to sell. Tolls vary by vessel, cargo, and voyage. When a port cannot give a carrier a quick answer on the cost of reaching a Great Lakes destination, uncertainty becomes part of the barrier.

Shipyards require commercial vessel activity to support investment, workforce development, construction, conversion, and repair. Carriers require cargo volume to justify investment in new Great Lakes-capable vessels. Cargo that moves away from direct Great Lakes service reduces commercial demand for the maritime industrial base that the United States is trying to rebuild.

Seaway toll parity would complement existing U.S. maritime policy by improving the economics of cargo movement, thereby supporting American ports, American shipyards, American maritime labor, and investment in Great Lakes-capable vessels. Canadian tolls work against those goals. They make U.S. Great Lakes ports more expensive to serve and slow the development of a transportation system that should move American commerce more efficiently.

A nation serious about reindustrialization does not leave its industrial heartland at the far end of a toll road operated by another country.

Canadian Seaway tolls raise the cost of serving U.S. Great Lakes ports, manufacturers, farmers, and shipyards. The revenue generated for Canada is modest. The burden imposed on American commerce is substantially larger. Seaway toll parity should be placed on the agenda of the U.S.-Canada trade discussions now underway.

Insights

Back to the Drawing Board

Chick Sexing, Wire Rope & AI

By Rik van Hemmen, Martin & Ottaway

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Chick sexing is a core concept for an experienced engineer. Fortunately, maritime engineers do not have to perform chick sexing, but the concept is extremely important and ties into engineering intuition and experience.

We all know engineers and mechanics who have an amazing ability to diagnose certain problems that completely elude solution by the rest of the community.

It is often called intuition, but there is actually no such thing as intuition; it is actually related to learning and experience. Learning and experience, especially in a feedback loop can result in incredible human powers.

Which bring me back to chick sexing. Chicken breeding is a weird world. Chicken breeders have very little use for roosters. Roosters are needed for inseminating female chickens but for the rest are useless; they fight and they do not lay eggs.

Therefore, chicken breeders want to get rid of male chicks as soon as possible. However, newborn male and female chicks are virtually indistinguishable from each other and in the old days a chicken breeder had to wait until the chicks matured to get rid of the males. Naturally it would save a lot of money if only the sex of the chicks could be determined right after they were born.

This is where Professors Masui and Hashimoto come in, who in 1933 published a paper noting that there are very slight differences in the anal vents (cloaca) of male and female hatchlings.

In 1933, a gentleman by the name of Hikosaburo Yogi was sent to the U.S. to demonstrate the vent sexing technique at experiment stations and universities. He was a very accomplished chicken sexer with a reputed accuracy rate of 100%. Yogi trained American chick sexers and his technique became widely established in the United States.

His training method was very interesting. A new trainee would be given a tray of chicks and was told to check the vent of the chick and to drop the chick into a male or a female tray.

All Yogi would do was tell the trainee whether the choice was right or wrong. The difference between male and female chick was so insignificant and fuzzy that initially the trainee was just guessing, but by repeating this process, the trainee would develop a subconscious selection ability that eventually resulted in very high levels of accuracy.

Trained sexers can sex chicks in about 3 seconds resulting in the ability to sex thousands of chicks per day.

Some will call this intuition but it is actually expertise. Expertise in all its forms is what makes the world run, and all expertise results from a form of chick sexing training.

Just last week I was asked to take a look at a machinery damage, it started with a collection of photos of a damaged crankshaft, conrods, counterweights, pistons and connecting rods. I was not even half way through the photos and said: Loose counterweight. Later in the damage description it was clear that the majority of the other inspectors after exhaustive follow up investigations also had reached the tentative conclusion that it was a loose counterweight.

I don't know what photo detail tipped me off on a loose counter weight. Those photos really were just a

mess of loose parts, but a number of years before I was involved in an equally exhaustive engine failure where, after many many hours, we established the cause was a loose counterweight.

Due to the experience of that earlier inspection, something tipped me off and I managed to look like a real-life expert.

Expertise is fun. There are many expertise jokes out there, and most come down to the same concept. Somebody calls an expert with a problem, the expert provides the answer immediately and then the client wants to know how he knows that is true. The expert then says: "I gave you the answer for free, if you want me to explain how I know it, it is going to cost you."

I Iove working with true experts. They don't even cost me a lot of money, because I generally am not stupid enough to ask for the "why" after they gave me the "what".

Experienced surveyors can board a vessel and will know in seconds whether a ship is going to be OK or not. The rest of the time is spent on figuring out what is OK or not.

But that does not mean an experienced surveyor is expert on everything. One thing that continues to frustrate me is wire rope inspections. There are many guides and instructions for wire rope inspections but, especially to an engineer, they are fuzzy and inexact and even inconsistent from guide to guide.

The effect is strange because, for example, a wire rope is not supposed to have rust on it, but does a light rust spot in one location condemn an entire wire rope or not? And what if the wire rope is greased or coated? Can I actually see where there is rust or not beneath the grease?

This is where AI comes in and there are various efforts at using AI to inspect wire rope. Some efforts use a device that travels along the wire rope and measures and scans the wire rope. That is nice, but not real chicken sexing. Hopefully there will be an effort soon where wire ropes of different sizes, ages and conditions are scanned in the presence of a real wire rope expert and build into an AI data base. I can then scan a wire rope with my cellphone camera and if it fails, I can send it to the tray of male chicks.

Although, I expect it will become more difficult to find a tray of male chicks. The chicken industry is huge, and chick sexing is a core cost. Therefore, there are very impressive AI efforts in chick sexing and some of those efforts focus on in-egg sexing rather than hatchling sexing. This apparently makes some animal lovers happier, but eliminates human sexers. All technology is good and bad, and the evaluation of technology always raises complicated questions. Does a chick's life begin after hatching, or in the egg?

Regardless, safer wire ropes is a win/win.

For every column I write New Wave Media makes a small contribution to an organization of my choice. For the foreseeable future I am selecting SL7Expo. An industry wide effort to develop a Smithsonian level exhibit center for commercial maritime.
https://sl7expo.org/members/

Risk Mitigation

Batteries

Managing Emerging Risks in Battery-Related Marine Fires:

A Practical Perspective on Investigation and Subrogation

By Diane Spinner, District Manager, EFI Global

As lithium-ion batteries continue to make their way into the marine space whether through vessel systems, transported electric vehicles, or everyday devices onboard we are starting to see a different type of fire loss than most of us have traditionally dealt with.

These events are not necessarily more frequent, but when they occur, they tend to be severe. In many cases, they result in prolonged fires or even total loss of a vessel or cargo. That aligns with broader industry findings that fires remain one of the costliest drivers of marine insurance losses, particularly when lithium-ion batteries are involved (Allianz Global Corporate & Specialty [AGCS], 2022).

At the center of many of these incidents is thermal runaway. Once initiated, it becomes a self-sustaining reaction that is difficult to control. The fire can escalate quickly, producing extreme heat and flammable gases, especially in confined spaces typical of marine environments (U.S. Coast Guard Research and Development Center [USCG RDC], 2025).

From a practical standpoint, that changes how these losses need to be approached from the beginning.

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Where the Risk Is Emerging

Battery-related fire risks are showing up across several areas of the marine industry:

- Hybrid and electric propulsion systems
- Electric vehicles transported on car carriers
- Energy storage systems onboard
- Consumer lithium-ion devices stored or charging onboard vessels

The common factor is the high energy density of these systems. When failures occur whether from physical damage, improper charging, or internal defects, they can develop into fires that are difficult to suppress and capable of rapid spread.

Recent incidents involving vessels carrying electric vehicles or battery systems highlight how quickly these events can escalate into total losses (International Maritime Rescue Federation [IMRF], 2025). These fires do not behave like conventional fuel-based fires and often require different suppression and response strategies.

What This Means for Investigations

From an investigative standpoint, one of the most immediate challenges is scene condition.

Battery-related fires frequently destroy the area of origin. By the time investigators gain access, suppression efforts, heat damage, and environmental exposure have significantly altered or eliminated key evidence.

As a result, origin and cause determinations often require a broader analytical approach:

- Reviewing system design and installation

- Evaluating charging practices and electrical systems
- Examining maintenance records and prior issues
- Identifying potential defects or known failure points
- Utilizing available electronic data from onboard systems

In many cases, no single piece of evidence will definitively establish cause. Instead, the conclusion is built from multiple lines of information that collectively support the most probable scenario.

Another critical factor is timing. Fire investigation guidance emphasizes that the entire fire scene should be treated as potential evidence and preserved accordingly (National Fire Protection Association [NFPA], 2024). In the marine environment, however, this must be balanced against salvage operations, environmental concerns, and vessel safety.

If evidence is not identified and preserved early, it may be lost entirely.

Subrogation Considerations

Battery-related fires can present significant challenges when it comes to recovery.

Subrogation depends on establishing causation and identifying responsible parties. In marine claims, this typically requires showing that a specific peril or failure led to the loss (DWF Group, 2025).

The difficulty with lithium-ion battery fires is that the initiating event is often destroyed. Thermal runaway can propagate quickly across battery cells, leaving limited evidence of where and how the failure began (DWF Group, 2025).

This impacts both the investigation and the ability to pursue recovery.

Additionally, there are often multiple parties involved:

- Battery manufacturers
- Equipment suppliers and integrators
- Vessel operators
- Maintenance providers

Early identification of these parties and providing them the opportunity to participate in inspections is critical. Delays or incomplete evidence preservation can limit or eliminate recovery opportunities.

From a practical standpoint, subrogation should be considered early in the claim. Decisions made during the initial stages of the investigation, particularly regarding evidence handling and documentation, can have a direct impact on the viability of recovery.

Moving Forward

Battery-related marine fire risks will continue to evolve as electrification expands across the industry.

The key takeaway is that this is a severity-driven exposure. Even if these fires are less frequent, the potential losses are significant.

Managing this risk effectively requires:

- Early involvement of experienced investigators and technical experts
- A broader investigative approach beyond traditional fire pattern analysis
- Careful attention to evidence preservation and documentation
- Integration of subrogation strategy early in the process

The fundamentals of investigation remain the same, but the path to establishing cause and supporting recovery often requires a more deliberate and multidisciplinary approach.

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U.S. Dredging: A Cornerstone of Maritime Commerce and National Defense

By William P. Doyle

There are several major dredging opportunities emerging across the United States that extend well beyond traditional maintenance dredging, channel deepenings, or harbor expansions. Increasingly, the American dredging industry is becoming a strategic tool for addressing some of the nation's most pressing challenges, including water security, agricultural sustainability, coastal resilience, maritime industrial revitalization and national defense. Among the most significant opportunities are efforts to restore freshwater conveyance capacity in California's Sacramento–San Joaquin Delta and San Joaquin Valley, support the infrastructure necessary for a revitalized shipbuilding and ship repair industrial base, and expand large-scale coastal restoration and beach nourishment programs.

Sacramento–San Joaquin Delta

For decades, the channels of the Sacramento–San Joaquin Delta have been gradually silting in due to sediment accumulation, reducing the capacity of one of America's most important waterway systems. Often described as the beating heart of California's water infrastructure, the Delta serves as a critical artery for the movement of freshwater that supports millions of residents, farms, and businesses.

Historically, many Delta channels were routinely maintained to depths sufficient to allow water to flow efficiently through the system. Since the late 1960s, however, dredging activity has steadily declined due to an increasingly complex patchwork of federal and state regulatory requirements. In some areas, maintenance dredging has not occurred for more than four decades. Channels that once averaged depths of 12 feet have, in certain locations, shoaled to less than two feet.

The consequences of this sediment accumulation extend far beyond navigation. Flood risks have increased as channel capacity has diminished. Water quality has deteriorated. Most importantly, the pumps, canals, and conveyance systems that supply water for drinking, agriculture, industry, and environmental purposes are increasingly operating below their intended design capacity. Agriculture is the largest economic driver in the Delta, and the effects of sediment accumulation have reduced the ability of many farmers to fully irrigate their crops, resulting in lower agricultural productivity and fewer employment opportunities for Delta residents. Recognizing the growing urgency, a coalition of agricultural producers, ranchers, water users, and regional stakeholders operating through the Great Valley Farm Water Partnership has begun exploring practical solutions to restore water flow throughout the Delta system. One of the most immediate and cost-effective actions would be to restore routine dredging as a core water-management function. Such an effort could build upon **Executive Order 14181**, issued on January 24, 2025, entitled *Emergency Measures to Provide Water Resources in California and Improve Disaster Response in Certain Areas.* The Executive Order directs federal agencies to ensure adequate water supplies for California and to remove unnecessary barriers that impede the efficient delivery of water resources. While significant investments have been made in reservoirs, pumps, canals, and water conveyance infrastructure, those investments cannot achieve their full intended benefit. Restoring the Delta's conveyance capacity through strategic, recurring dredging would improve water movement, enhance flood protection, strengthen water quality, increase drought resilience, and maximize the effectiveness of existing federal and state water infrastructure investments. The lesson from the Delta is straightforward: when channels designed to move water are allowed to fill with sediment, the entire system suffers. Restoring routine dredging more than just a navigation project, it is a water infrastructure project.

Markets
Dredging

Shipyards

The Trump Administration and Congress have recognized the urgent need to expand America's shipbuilding, maintenance, and repair capacity, particularly on the West Coast. These priorities are reflected in President Trump's **Maritime Action Plan** and in the bipartisan **Shipbuilding and Harbor Infrastructure for Prosperity and Security (SHIPS) for America Act**. If the U.S. is serious about restoring maritime dominance and competing in the Pacific, it will need additional shipyard capacity west of the Panama Canal. Many potential shipyard sites, however, have been dormant or underutilized for decades and will require significant dredging to restore channel access and accommodate the vessels that will be built, repaired, and maintained there. Mare Island in Northern California illustrates both the opportunity and the challenge. Once a cornerstone of American naval shipbuilding, the facility is now the focus of revitalization efforts tied to broader federal initiatives aimed at expanding the nation's maritime industrial base. Likewise, nearby sites in the California Delta, including Rough and Ready Island and other former industrial properties, are being evaluated for major shipyard development capable of supporting both commercial and defense-related maritime activities.

These efforts are supported by proposals to establish a Maritime Prosperity Zone within the California Delta, leveraging the region's deepwater access, historic maritime infrastructure and available industrial land. If any of these projects move forward, one reality remains constant: shipyards cannot operate without navigable waterways. Before a single vessel can be built, repaired, or delivered, channels, turning basins, berths, and waterfront access points must be dredged and maintained. In each case, dredging is not a secondary consideration — it is a prerequisite to redevelopment. The U.S. Coast Guard is also facing capacity constraints at its primary shipyard facility in Baltimore, Maryland, which is operating at or near full utilization. As the Coast Guard's blue-water fleet expands, maritime advocates are increasingly calling for the establishment of a dedicated Coast Guard-owned and -operated shipyard on the West Coast to support Maintenance, Repair, and Overhaul (MRO) activities. Any such facility would require substantial dredging to provide and maintain channel access, turning basins, berthing areas, and waterfront infrastructure capable of supporting a growing fleet. Revitalizing America's shipbuilding industry will require more than workforce development, financing, and industrial policy. It will also require a sustained commitment to dredging and maritime infrastructure which encompass the foundational work that makes shipbuilding, ship repair, and maritime readiness possible.

Coastal Restoration, Beach Nourishment and Land Reclamation

With weather events becoming more severe and new technologies and planning approaches taking hold, dredging will be a lynchpin in protecting coastlines, restoring habitat, reclaiming land, and safeguarding coastal communities.

The stretch of marshland in coastal Louisiana known as the East Orleans Land Bridge may finally see meaningful restoration. Nobody actually lives on this strip of land, but it serves as a critical protective barrier for hundreds of thousands of people living in the greater New Orleans region. Over the past 10 to 15 years, it has been disappearing at an alarming rate.

According to the recently published **Phase 2 Draft Restoration Plan for the East Orleans Landbridge Restoration Project and Raccoon Island Restoration Project**, from the Louisiana Trustees, it is proposed for construction at an estimated cost of approximately $101.2 million. The project would create approximately 1,320 acres of marsh habitat and construct roughly 14,867 linear feet of shoreline protection. Habitat restoration would be accomplished through dredging and the beneficial use of sediment sourced from Lake St. Catherine. Projects like this demonstrate that dredging is no longer simply about maintaining navigation channels; it is becoming one of the nation's most important tools for coastal restoration, climate resilience, habitat creation, and community protection.

The need for dredging-based restoration is not limited to the Gulf Coast. Similar efforts are underway on the Pacific Coast, where beach nourishment is increasingly being used to protect communities, infrastructure, and recreational shorelines.

On June 10, 2026, the U.S. Army Corps of Engineers released its draft plan calling for **long-term beach nourishment along Oceanside, California's coastline,** with an initial placement of 1 million cubic yards of sand followed by additional replenishment every 10 years. The proposal would maintain a minimum beach width of 85 feet from Oceanside Harbor south to Buena Vista Lagoon.

Manson Construction recently completed the Oceanside Harbor dredging project for the Army Corps. That operation removed approximately 320,000 cubic yards of sediment from the harbor inlet, significantly improving navigable depths after severe shoaling created hazardous conditions earlier in the season. The dredged material was pumped directly onto Oceanside beaches south of the pier, providing an immediate beach nourishment benefit while supporting navigation. The Corps identified beach nourishment as the most technically feasible, environmentally acceptable, and cost-effective solution to address erosion linked to the harbor's construction. Federal environmental studies estimate that the harbor has contributed to the loss of between 1.4 million and 1.6 million cubic yards of sand from Oceanside beaches since the 1940s. These are just two examples of the land reclamation, beach nourishment, and habitat restoration projects that are increasingly driving demand for dredging services.

To conclude, America's dredging industry is not just confined to its traditional role of maintaining navigation channels. U.S. dredging companies are increasingly being called upon to solve larger national challenges. Whether improving water delivery in California's agricultural heartland, restoring disappearing wetlands in Louisiana, protecting beaches in California, or supporting the expansion of America's maritime industrial base, dredging has become an essential component America's infrastructure gameplan. The projects highlighted here represent only a portion of the opportunities on the horizon. As the United States confronts growing demands on its water resources, coastlines, and maritime infrastructure, the importance of the American dredging industry will also continue to grow.

WELCOME TO THE U.S. SHIPPING MERRY-GO-ROUND

By Bob Kunkel

Taking your children or grandchildren for a ride on the Merry-Go Round may be a pleasant past memory. With that memory, we are asking to think about your choice of the best horse as you board the platform. A decision resting upon what you want out of the ride. Now consider that selection to the current state of US shipbuilding.

Selecting the outside row of "jumpers" provides the greatest thrill as they move the fastest. When the **Executive order for Maritime Dominance** was issued on April 9, 2025, the U.S. maritime industry was ready to ride for the thrill of it. After all it was issued by the "Lead" horse, the one with historical flair while branded with the most progressive support of U.S. Maritime.

Prior to the Executive Order, we experienced the ***Ships for America Act*** issued on December 19, 2024. Understanding the speed of Congressional legislation, the horse selection would have been the center row for a calmer, gentler ride understanding that every trade association, lobbyist and labor group would be rushing up to Capitol Hill to protect their interests. And protect they did. Or so they thought.

If you take into account recent domestic Jones Act waivers issued for a period of over 150 days and the damaging market results of that decision to US owners and operators during a period of geopolitical National Security, the "promises" look to be lost.

The Executive Order, the Ship's Act legislation and all of the industry positioning was based around the rebuilding of **US commercial shipbuilding**. If we take into account nearly two years passing since Washington announced the "programs," nothing has moved forward. The horse selection should have been recognized early on. They are called "standers" and have all four feet on the ground of the platform and do not move up and down as the merry-go-round turns. At this point no one in shipbuilding has "saddled up" as the industry has no riders and the answer to why is simple: No customer can afford the price of the ride.

With the geopolitical unrest occurring in every corner of the world, it becomes difficult to understand how the U.S. domestic maritime industry can lift itself back up and fix our internal problems. We would suggest first look back at the language of Section 1 of the Executive Order:

"**The commercial shipbuilding capacity and maritime workforce of the United States has been weakened by decades of Government neglect.**" If we understand the fall is the result of Government, how does the industry expect government to solve a "commercial" problem? The emphasis of the EO is **commercial shipbuilding**. Yet trillions of Federal Government dollars and very limited shipyard capacity are being budgeted, sold, developed, committed and arranged to support Navy construction. We see daily reports of battleships, autonomous drones, frigates and a rush to fund a quick fix of spending to reduce delays of existing Navy construction and M&R projects. Delays and cost overruns we have experienced for decades.

The alarm of National Security rings loud if we follow the geopolitical issues. What is missing from reports is the fact that the U.S. Navy was also weakened after decades of Government neglect. The truth is with all of the problems presented, the current U.S. shipyard capacity and depleted workforce, can't be fixed to serve Navy & commercial shipbuilding in the same breath. There is a Washington DC misunderstanding concerning the difference between the two "industries." Be that as it may, the effort needs to be better defined in order to attract investment, create jobs and solve the Nation's infrastructure issues.

The ability to fix the commercial problem is simply understanding markets and the comparative costs to build in the U.S. or the Far East as those costs are the lead factor to understand the business model.

U.S. Shipyard: A Limited Customer Base

Two "markets" determine the analysis. Vessels built under the protection of Jones Act Legislation and military vessels built for the US Navy and USCG. New U.S. construction built for foreign commerce has been absent from the analysis for decades. You don't need "AI" to dig deep into that research. With that let's return to the language of the Executive Order: *"Rectifying these issues requires a comprehensive approach that includes securing consistent, predictable, and durable Federal funding."*

Simply put, subsidize the yards in the same fashion our foreign competitors do if this is the "third" market you wish to enter.

Foreign and U.S. flag, commercial owners and operators determine newbuilding decisions on market research based upon cargo availability and age profile of a certain ship size & type. The decisions are based upon historical "supply &

demand" balance or imbalance. Our current Government research is fixated on the "wet markets" from crude, gas & clean product. It is an obvious selection as the Administration is concentrated on energy. Add a U.S. Navy Indo Pacific wish list and particular attention moves to medium range product tankers or "MRs."

A Heritage Foundation report tagged as "Tidalwave" circa April 2025 and January 2026, reported "to mitigate today's overreliance on China-controlled shipping, the nation will need a total of 1,315 additional U.S.-flagged/U.S.-crewed vessels of six different classes: 960 container ships; 122 tankers; 33 liquefied natural gas (LNG) carriers; 77 roll-on/roll-off (RO/RO) ships; 106 bulk carriers."

Globally, the one hundred MR estimate was discussed 10 years ago simply due to foreign fleets age profile and demand. The "ECO ship" design addressed that requirement a decade ago resulting in a building rush in the U.S and Far East. This current estimate is based solely upon logistic requirements to support an Indo-Pacific military theater.

The shipyard industry also follows its own market and cost evaluation. Put yourself in their place when they see a Navy oiler contracted for more than $850 million dollars, training ships at $330 million, an Aircraft Carrier at more than nine billion and countless M&R support programs at prices a commercial repair yard or operator can't fathom. Ask yourself as a builder what path your investment strategy would follow. Better yet ask your bank and financial advisor and watch him stand and yell: Go Navy.

As of this article the Government has issued an **Arctic Security new construction program, Requests for Information (RFI) and designs for Console tankers, Ro-Ros, and hospital ships.** A collective wish list estimated to cost billions.

Most if not all of them Government funded in some fashion and none based upon a commercial business model. Where is the US shipyard capacity to satisfy these proposed projects? Or are the RFI's positioned to expose the lack of that required infrastructure and create the "bridge" discussions involving foreign Ally yards. Make no mistake, if the Navy requirements ring true, Far East shipyard support will be necessary to meet projected periods when the tonnage will be required. Amtech, as a builder in South Korea, supported the "bridge" to support the delivery periods.

Now understand the programs and Navy involvement has extended well beyond U.S. shipbuilding and into Far East Ally shipyards that are passing on "commercial" contracts and reserving slots for the promise of US Navy new construction and M&R. With that capacity "reserved" you will see a return of commercial construction to China. The demand affected by the blockade of the Straits of Hormuz, Asian markets pivoting to Russian and a push for the Northern Arctic route all supporting as new "supply & demand" analysis. Several US based and Korean based owner/operators who have historically built in South Korea have announced Chinese contracts despite the US government tariffs and restrictions. Others will follow.

Ignoring the global markets will only create more confusion. The recent 150-day Jones Act waiver allowed more than 100 foreign vessels to enter the Jones Act trades. A decision made by the Department of War and Homeland Security despite the decades of determining the legislation supported National Security and the Maritime Administration issuing waiver decisions. The only logical discussion to determine if the waiver was necessary would be the movement of crude or refined product to California due to the lack of U.S.-Flag tonnage capable of meeting California environmental and emissions requirements.

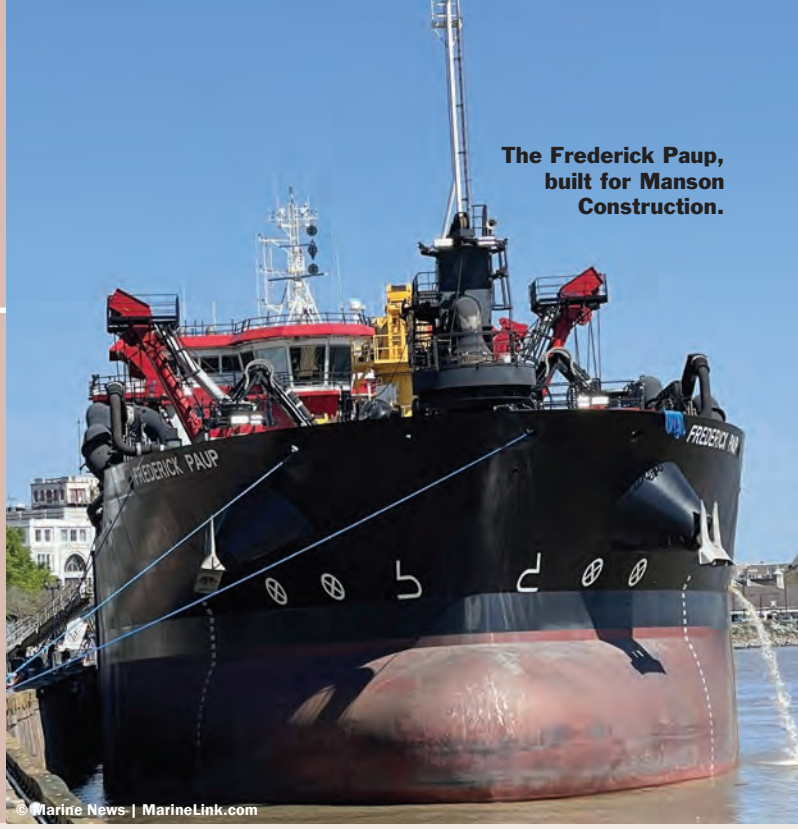
The waiver did not affect gasoline prices and was certainly not pushed into place to deliver asphalt on the *Jin Zhou Wan* from New Orleans to New Haven Connecticut. Amtech has long been a proponent of waiving the U.S. build requirement of the Act for certain ship types and technical requirements. That opinion is again based upon the cost to build commercial tonnage in the U.S. shipyards. Current costs of new construction contracts reaching levels that cannot be supported. The cost to build is the issue and if this is not recognized, the Merry-Go-Round will quickly become a Roller Coaster.

Feature

Dredging

U.S. DREDGING POLICY FALLS SHORT:

How the (latest) Jones Act Waiver + Outdated Environmental Restrictions Hamper the Industry



The Frederick Paup, built for Manson Construction.

By Lillian V. Doyle

The American maritime industry depends on policy that supports economic growth and investment and protects national security; however, recent policy decisions have too often relied on broad administrative actions and outdated assumptions rather than modern, data-driven approaches. The extension of the Jones Act waiver and the continued use of rigid seasonal dredging windows illustrate this trend. Though distinct issues, both carry significant consequences for maritime investment, operational efficiency, and the long-term strength of the maritime industry.

A Brief Discussion on the Jones Act Waiver

The Jones Act (Section 27 of the Merchant Marine Act) law protects the domestic maritime industry from foreign interference in our national and economic security. It supports national security interests by maintaining a reliable supply of trained mariners who are needed during national emergencies and overseas conflicts. It also fosters an American manufacturing base by requiring that the ships be built in America and owned by U.S. companies.

In response to Iran's blockade on the Strait of Hormuz, on March 17, 2026, the **Trump Administration** issued a national defense interest waiver of the Jones Act. Originally set for 60 days, the waiver has been extended by an additional 90 days, pushing the end date through August 16, 2026. The waiver was predicated primarily on the need to lower gasoline prices in the U.S., however, reporting suggests that the waiver has had only a marginal impact on fuel prices, if at all. It has contributed to tighter vessel markets and higher freight rates globally, given the increased demand on foreign vessels amid the circumstances of the war in Iran–the very circumstances that the waiver was implemented to supposedly alleviate.

Aside from taking jobs directly from American workers, the waiver raises significant national security concerns. According to the Shipbuilders Council of America, roughly one-third of all completed waiver voyages have involved vessels with ties to the People's Republic of China, whether through ownership, operation, joint-venture arrangements, or Chinese-built hulls. **For example, the Chinese-flagged vessel MV Jin Zhou Wan transported asphalt between Harvey, Louisiana, and New Haven, Connecticut.** The vessel is operated by COSCO, which has been designated by the Department of Defense as a Chinese military-affiliated company. Transporting asphalt in U.S. domestic trade on a Chinese-built, Chinese-owned, and Chinese-crewed vessel can hardly be considered in the interest of national defense. This is especially true when American-built, American-owned, and American-crewed vessels, such as those operated by Kirby Corporation, remain available. Congressional leaders are taking notice.

When **Congressman Salud Carbajal (D-CA)** sought information from foreign flagged ship operators regard-

ing their compliance with American laws and security standards, an alarming number of them gave either vague justifications similar to statements like "Because of the waiver," or just stating "Not Applicable." Such responses provide insufficient assurance that foreign operators are meeting the compliance and security expectations typically associated with domestic commerce. In addition, maritime tax professionals are increasingly raising concerns that the waiver is opening the door to what appears to be a tax avoidance structure. These foreign flag vessel operators are also avoiding the safety and environmental oversight with which the domestic maritime industry must comply. Therefore, the U.S. government is granting preference to foreign flag operators over its own domestic fleet.

Concerns about the waiver's impact on American jobs and national security are being raised in hearings on Capitol Hill. During the March 18, 2026 congressional hearing, Waiving the Jones Act to Fix Trump's Economic Crisis, **U.S. Representative Hillary Scholten (D-MI)** put it plainly: "If the waiver continues, we will become quickly reliant on foreign-flag ships for domestic commerce." At a Senate Armed Services Committee hearing on **U.S. Transportation Command, Chairman Roger Wicker (R-MS)** took the argument a step further, warning that if "war breaks out, Chinese ships aren't going to be available to us." The waiver is putting a direct strain on economic investment. The Federal Reserve's May 2026 Beige Book has indicated that "A water transportation company noted having paused domestic shipping investment due to Jones Act waivers." This is significant as it appears to be the first time the Fed's Beige Book cited the waiver as a causal factor in diminishing economic investment. Similar concerns are being raised throughout the maritime industrial base. On June 15, 2026, the Shipbuilders Council of America warned that the waiver places more than $2.6 billion in active shipyard contracts and planned expansion projects at risk. Industry leaders argue that the longer the waiver remains in effect, the greater the uncertainty for investors, shipbuilders, vessel operators, and mariners. As **Clayton Heil, Vice President of Government Relations at Crowley Maritime**, testified before the U.S. Senate Commerce Committee during the hearing The Blue Economy: Advancing American Fisheries, Maritime Strength, and Coastal Economies, for the waiver "to be extended again would be another sign to the investment community and to companies like ours and to mariners that the Jones Act is unstable, and investment will flee." *[As of this writing the cease fire in the Persian Gulf just came into effect, but the Jones Act waiver remains in place.]*

Environmental Restrictions

While the Jones Act waiver relaxes long-standing protections despite questionable benefits, other areas of maritime policy remain constrained by regulations built around assumptions and scientific limitations from decades ago. The issue of dredging windows provides a useful example.

During the **2026 National Dredging Meeting in Norfolk, Virginia,** nearly 200 attendees from the U.S. Army Corps of Engineers (USACE), private sector dredging companies and associations discussed a major industry issue. That issue focused on how rigid regulatory dredging windows place a financial burden on both the dredging industry and the American taxpayer. Keynote speaker, Deputy Commanding General for Civil and Emergency Operations, **Major General Jason Kelly** acknowledged the regulatory concerns and highlighted a need to expand dredging windows. He assured attendees that the Trump Administration is working on ways to expand the number of days that can be dredged each year in various Army Corps districts. In an attempt to mitigate the environmental impact of dredging projects, current seasonal dredging windows operate under set, arbitrary calendars founded on outdated and extremely minimal scien-

tific evidence. These outdated windows directly raise costs for the American taxpayer by increasing the risk of emergency shoaling conditions and extending some dredging projects over multiple seasons. The windows create financial risk for the dredge owners and operators when they have to idle their vessels. They run the risk of laying off or losing crew members.

Given that the windows push projects away from warmer periods and into the colder months of the year, there are also costs associated with the safety risks to crewmembers who must complete work in sub-optimal and sometimes extreme winter conditions. Furthermore, each protected species operates on a distinct biological clock (though often not set to a specific schedule like the compulsory windows suggest) which often collide or overlap with each other, further restricting the ability to complete essential projects.

These windows make it difficult to meet contractual delivery schedules, often resulting in delays and potential monetary penalties. The associated costs including vessel idling, crew retention, and reduced operational efficiency can be substantial, ultimately increasing project costs borne by both contractors and taxpayers.

Today's dredging windows are based on overly conservative information from the 1970s and 1980s when dredge operators and regulators simply did not have the technology required to determine exactly where protected species resided at any point in time. Technology has advanced exponentially in recent decades. Through Risk-Informed Decision Frameworks (RIDFs) that incorporate real-time data such as water temperature, turbidity, salinity, and historical ecological information, dredging operators now have the tools to effectively reduce environmental risks while completing necessary projects within reasonable timeframes.

Other RIDF mechanisms include deterrents designed to encourage endangered species already present in the area to move elsewhere. One method uses electric and magnetic pulses to discourage animals from remaining in the vicinity. While effective, these pulses can, in some cases, disrupt certain biological electroreception processes. As a result, the USACE also exploring non-invasive visual silhouette deterrents that project shadows resembling large sharks and other predators, signaling that the area is not safe for these species to remain.

Another USACE-suggested technique is the use of Turtle Tickler Chains (TTCs), which discourage turtles, sturgeon, and other benthic organisms from remaining in the area. The Dredging Contractors of America and other organizations are working with the Administration and Congress to increase the number of dredging days per year. As discussed at the National Dredge Meeting, this year is being described as a very important year to start the process of expanding dredging work windows.

Although the Jones Act waiver and dredging windows involve different policy areas, both demonstrate the importance of grounding maritime policy in long-term interests and modern evidence rather than short-term political responses and outdated assumptions. In one case, administrative actions have set aside a foundational maritime law despite limited evidence that doing so achieves its stated purpose. In the other, regulators continue to rely on rigid seasonal restrictions developed when today's monitoring technologies did not exist. A durable maritime strategy should do neither. It should strengthen America's national and economic security while embracing modern tools that improve efficiency and environmental stewardship simultaneously.

Tech Talk

Jesse Vecchione, Weathernews

All images courtesy Weathernews

Weathering the Storm:

Weathernews Aims to Make Shipping Safer, Cleaner and More Efficient

Weather routing sits at the center of today's broad maritime digitalization discussion, and few have been doing this longer than **Weathernews** (WNI). Formally founded in Japan in the 1990s with the acquisition of Ocean Routes, its tendrils reach back to the U.S. military in the 1950s. In the name of safety, in the name of fuel efficiency, in the name of efficient fuel management, weather routing is much more intensive than a simple weather forecast.

By Greg Trauthwein

For as long as ships have crossed oceans, mariners have looked to the sky to guide their decisions. Today, however, the art of reading the weather has evolved into a sophisticated blend of meteorology, artificial intelligence, proprietary data and human expertise that is helping ship operators save fuel, reduce emissions and protect lives on the water. Few companies illustrate that evolution better than Weathernews (WNI).

While many know the Japan-based company as a global provider of maritime weather services, its roots stretch back much further. According to Jesse Vecchione, Head of Business Development, Americas, WNI, a 23-year veteran with the company, the heritage of modern voyage optimization traces back to military forecasting efforts in the 1950s and the pioneering work of Ocean Routes in the 1970s.

"It's a very interesting story," Vecchione said. "This routing tech actually has very, very deep roots going all the way back to the '50s and '60s in the military, and here we are now leveraging a lot of the same philosophy, but using digital tools and technology to help make it more efficient."

That history matters because weather routing is no longer simply about avoiding storms. It has become an essential op-

"I think anybody that has an internet connection could use tools to create a product that would try to push a forecast or try to do weather routing type solutions. But first of all, you need to have the best quality weather data to start, and you also need to know how to utilize that data and make it actionable."

– Jesse Vecchione, Head of Business Development, Americas, WNI

Tech Talk
Jesse Vecchione, Weathernews

erational tool as shipowners balance safety, schedule reliability, fuel costs and increasingly stringent emissions regulations.

Today, WNI supports approximately 8,000 to 9,000 vessels every day under some form of service while drawing upon more than 50 years of proprietary meteorological and voyage data. The company operates globally with offices spanning Asia, Europe and North America, providing services that extend from route optimization and performance monitoring to operational risk assessment and decision support.

Its early success came from convincing skeptical captains to embrace Great Circle routing across the North Pacific, shaving days from voyages by exploiting weather patterns rather than avoiding northern routes. The lesson remains relevant today: the shortest, fastest, safest and most efficient path is often the one informed by data rather than instinct.

Like virtually every maritime technology provider, WNI has undergone its own digital transformation. Yet Vecchione argues that simply making weather data available online is not enough. "I think anybody that has an internet connection could use tools to create a product that would try to push a forecast or try to do weather routing type solutions," he said. "But first of all, you need to have the best quality weather data to start, and you also need to know how to utilize that data and make it actionable."

That distinction is becoming increasingly important as operators seek every possible efficiency gain. Weather routing has evolved from plotting the fastest voyage between two ports to what WNI describes as optimum ship routing — balancing weather, vessel performance, commercial priorities and fuel consumption while preserving safety margins.

The implications are significant. Better routing decisions can reduce bunker consumption, lower greenhouse gas emissions and improve schedule certainty while helping crews avoid dangerous sea states.

Wind & Waves

At the center of those decisions is wave forecasting, an area where WNI recently introduced a higher-resolution proprietary model designed to improve voyage planning and vessel position prediction.

"Wave height and wave direction are one of the more critical aspects for ships at sea," Vecchione said. "We've done comparisons against the well-known global models … and the performance is much better."

Digitalization has also expanded beyond forecasting into customer workflows. APIs allow weather intelligence to flow directly into voyage management systems, while machine learning and AI increasingly automate repetitive tasks.

WNI has deployed machine learning to process tens of thousands of incoming operational messages each day, helping identify vessels requiring immediate attention. More recently, it introduced agentic AI capabilities within its software platform, allowing users to query weather conditions, routing concepts and voyage information through intelligent assistants.

Yet despite the enthusiasm surrounding AI, Vecchione is adamant that technology alone cannot replace experienced human judgment.

"One thing that we've tried to maintain over the entire time was to keep the human risk communication available," he said. "When things are going sideways in the middle of the North Pacific Ocean and there's a captain that wants to speak to somebody who really knows what they're talking about onshore, we want to be available."

That philosophy reflects a broader truth about digitalization in shipping. While algorithms excel at processing data, they cannot fully replicate the intuition developed through years of operational experience.

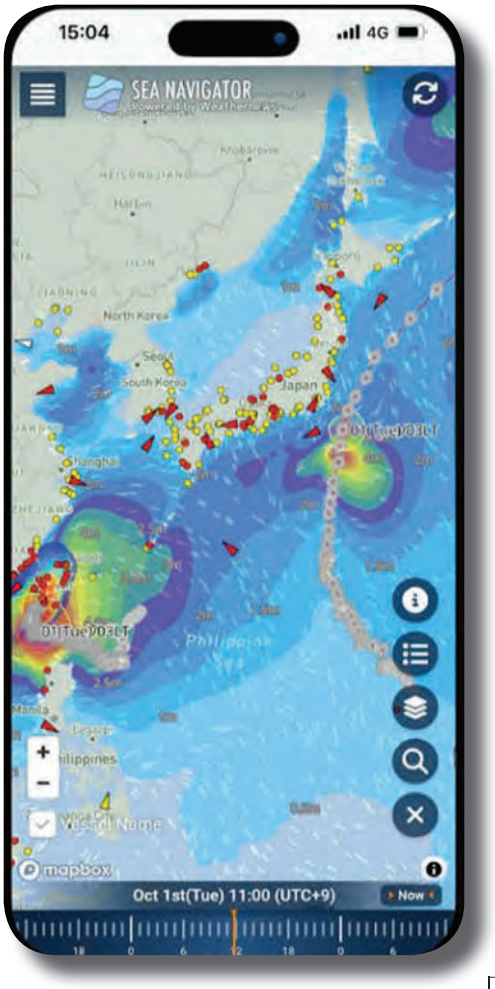
Vecchione believes the greatest value WNI provides is acting as the bridge between shoreside commercial expectations and onboard operational realities.

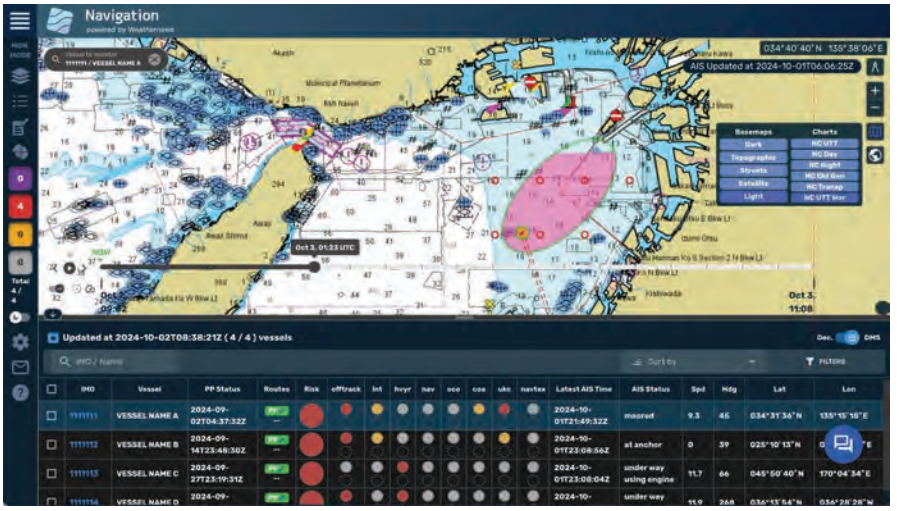
"The voyage planners and risk communicators are sort of the interface between what the expectation is shoreside and what the masters are actually facing on the ocean," he said.

He worries that some organizations pursuing digital transformation are inadvertently removing experienced safety professionals from the decision-making chain in pursuit of greater efficiency.

"One of the challenges that we've had recently is that with the digital transformation, a lot of people are cutting out the safety-minded person in the decision-making process shoreside," Vecchione observed. "It might become more efficient because we have better tools, but it's still 100% required."

That balance between automation and human expertise may ultimately define the next generation of maritime weather services. AI can summarize decades of operational data, generate routing alternatives and monitor fleets at unprecedented scale, but it remains a tool rather than a replacement for seasoned mariners and meteorologists.

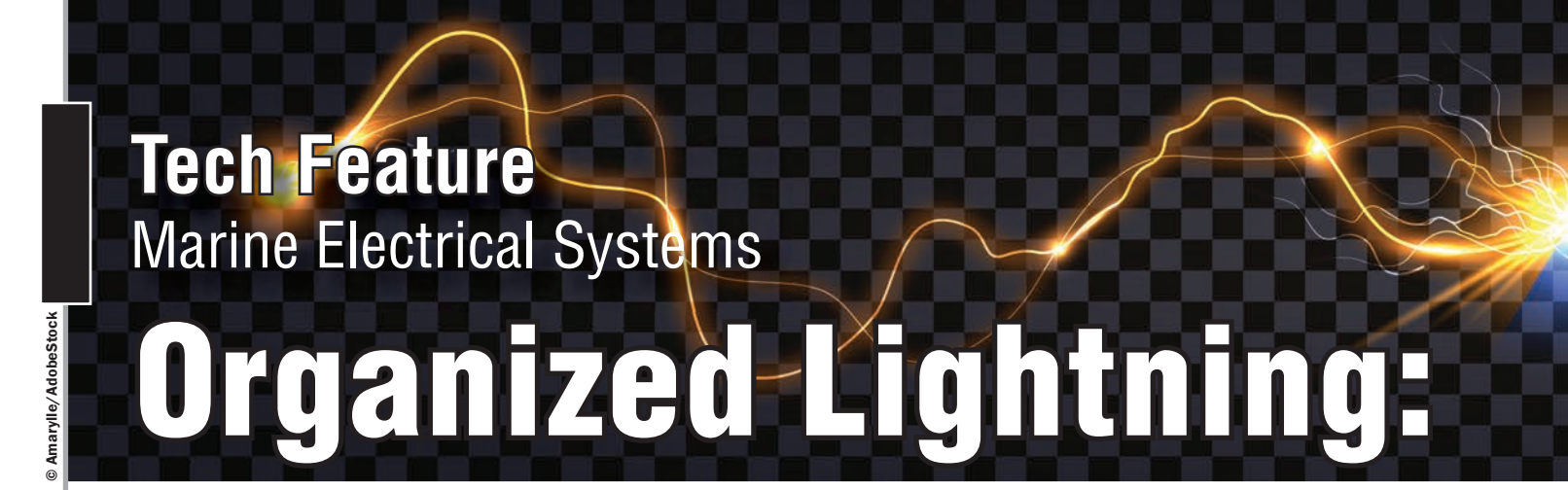




As the shipping industry confronts tighter emissions regulations, rising fuel costs and increasing schedule pressures, weather routing has become far more than a navigational aid. It is now a strategic operational capability that influences safety performance, environmental compliance and commercial success.

For WNI, whose lineage stretches from naval forecasting offices to AI-enabled voyage optimization, the mission remains remarkably consistent: helping ships make smarter decisions before heavy weather turns into operational risk.

In an era increasingly defined by digitalization, the company's competitive edge may not simply be the quality of its data or sophistication of its algorithms, but its insistence that the best decisions still come from combining advanced technology with experienced human judgment.



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Tech Feature
Marine Electrical Systems

Organized Lightning:

Understanding the Evolution of Marine Electrical Systems

By Will Ayers, PE | Chief Electrical Engineer, Elliott Bay Design Group

How well do we really understand the electrical systems powering today's vessels? Many of us realize how important electricity is to our modern world but may be a bit shaky on the specifics. The Welsh comedian Tommy Cooper once joked, "Electricity is a wonderful thing. Do you realize that if we didn't have electricity, we'd be watching television by candlelight?"

For those who have worked on vessels for many years, the increasing complexity may be a sore point, especially for those who have been hands-on in their careers and been zapped a few times. George Carlin once joked, "Electricity is really just organized lightning."

The Growing Complexity of Marine Electrical Systems

All kidding aside, the growing complexity of marine electrical engineering is becoming a defining factor in modern vessel design and operation. At EBDG, we have been fortunate to develop significant experience in hybrid technologies over the last decade. However, if that immediately elicits thoughts of a Prius or Tesla, there is much more happening electrically onboard today's vessels and understanding these systems is becoming increasingly important as vessel designs continue to evolve.

From Space to Sea: Expanding Electrical Capabilities

One exciting area that the US leads the world in is the marinization of space technology. Such examples include Rocket Lab's autonomous station-keeping barge Return On Investment being converted at Bollinger Shipyards in Amelia, La. Blue Origin used the advanced barge Jacklyn last year to successfully land a rocket. SpaceX led the way having landed its first rocket on an autonomous drone barge with Of Course I Still Love You dating back to 2016. And, not surprisingly, NASA has a long experience in this area. For instance, they operated two specially-designed ships for space shuttle booster recovery built in 1980 at the Atlantic Marine Shipyard, now BAE Jacksonville.

Like offshore oil and gas, autonomous landing barges usually depend on dynamic positioning (DP) to maintain precise coordinates. And, like offshore, this leads to a clear advantage for diesel-electric propulsion. Another area that we've been working on involving DP and diesel-electric propulsion is that of research vessels. For all of these diesel-electric vessel types, it can become a complicated analysis to decide between the increasingly popular DC grid propulsion system vs the conventional constant-speed variety.

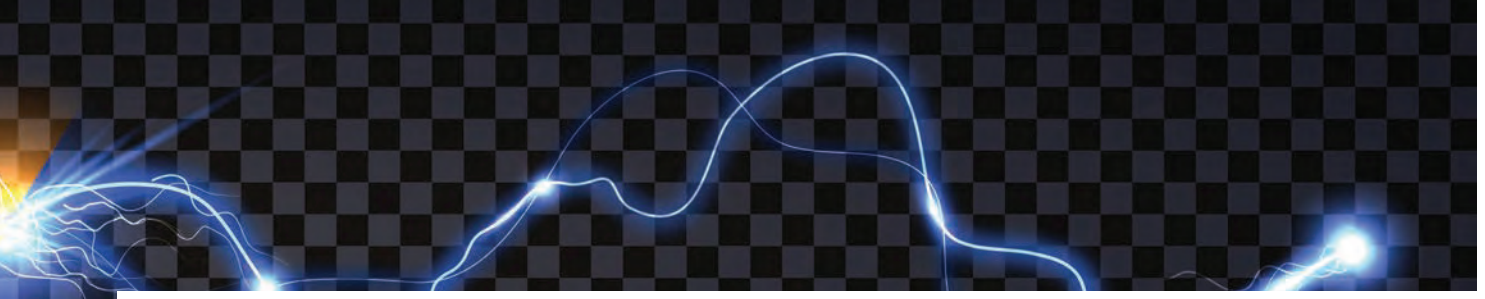
DC Grid Systems: A Shift in Propulsion Architecture

A DC grid retains the use of standard AC generators and AC motors. However, it replaces both the AC propulsion switchboards and propulsion Variable Frequency Drives (VFDs) with a single DC grid "switchboard". With the main propulsion bus now DC, generators connect through rectifiers located in the DC grid line-up which also includes inverters feeding AC propulsion motors and an AC ship service switchboard.

There are several advantages. The DC grid is composed of the same rectifiers and inverters that are the front and back halves of the VFDs in a standard diesel-electric. Yet, large AC propulsion switchboards and their circuit breakers are no longer needed. The large phase-shifting transformers from older systems can also be eliminated with the potential for considerable volume and weight savings. The generators can operate at variable speed improving fuel efficiency and can also come online faster. There is no frequency to synchronize; the rectified generator voltage just needs to match the DC bus voltage.

Challenges and Considerations

The primary disadvantage with this new approach is the DC short circuit current. While DC grids can achieve sig-



nificantly lower arc flash energies for personnel safety, the brief peak in short circuit current typically exceeds that of an AC propulsion bus. High-speed fuses and electronic bus ties are needed with circuit breakers comparably too slow for the much faster peak current.

Also, inverters supplying an AC ship service switchboard can't supply the same short circuit current as an AC propulsion switchboard so coordination of downstream circuit breakers can be a bit more challenging.

The Evolution of Propulsion Motors

There's another component in electrical propulsion systems undergoing major changes. That's with the typically largest and most expensive electrical component, the propulsion motor. The DC motor was dominant until perhaps the 1980's when separately excited synchronous motors took over. Then about 20 years later, induction motors began to dominate. Nowadays, the permanent magnet synchronous motor (PMSM) is looking to take the lead.

To meet the strictest underwater radiated noise (URN) requirements ever applied to a vessel of this class, Steerprop will supply Germany's new Polarstern 2 icebreaking research vessel with PMSM units delivering 9 MW through a 15.7-foot diameter propeller. Not to be outdone, Kongsberg developed their incredible high-efficiency, low-noise rim-drive thrusters with the permanent magnets integrated right into the propeller rim. ABB has designed and installed permanent magnet shaft generators that save up to 20% on footprint over other AC machine types. Schottel, MAN/Ramme, DRS and many others have also developed PMSM propulsion applications.

Performance Advantages of PMSMs

PMSMs have considerable advantages when it comes to power and torque density over induction motors. One can typically expect a 20-50% savings in volume and weight that can lead to installation or operating cost savings. They also generate less noise and vibration, thanks to their simpler design. Induction motors in large sizes typically have efficiencies in the 94-95% range. For the same size and RPM, PM motors will typically achieve 97-98% or an average of 3% in savings. Further, PMSMs efficiency advantages increase at slower speeds where the fall off in efficiency with induction motors is steeper.

To achieve the low output speed commonly required of propulsion motors, a higher quantity of motor poles is needed. For instance, while a four-pole machine utilizing 60Hz AC power will output about 1800 RPM, a 16-pole motor will output roughly 450 RPM. So, another advantage for PMSMs is their relative ease in increasing the pole count vs. an induction machine. The latter suffer an extra efficiency penalty with higher pole counts. If one adds a reduction gear to the lower pole induction motor, that adds its own inefficiency to the drive train. Either way, one can expect to suffer roughly an additional 3% efficiency loss for the induction propulsion motor.

Trade-Offs and Practical Considerations

All things of course have trade-offs and there are challenges with PMSMs. The biggest one may be cost. The typical magnets used are a neodymium-iron-boron type and they aren't cheap. Along with the rare earth neodymium, dysprosium and terbium are often added for heat resistance. The term rare earth is a bit of a misnomer, at least compared to the truly rare platinum group minerals. Nevertheless, they can be toxic to process. China possesses by far the large reserves in the world and so supply chain issues could be of significant concern.

Though any motor might be seriously damaged by overheating, such as with an undetected loss of the cooling medium, PM motors have the unique weakness that such an event could demagnetize the expensive permanent magnets. Finally, a safety caution is in order about the incredible strength of these magnets. At very infrequent intervals during installation or later maintenance, the rotor containing these magnets may be partially or fully exposed to personnel. It is important to avoid approaching these motors with magnetic materials, for instance having steel tools, keys and similar items in one's pockets, or if you have a pacemaker or surgically implanted metal. One must also avoid rotating the rotor relative to the stator or voltage will be generated on exposed conductors.

Making Informed Decisions in a Complex Landscape

It is hoped that the discussion here on key decision points for a diesel-electric system will make the reader a little more comfortable in tackling such issues. There are obviously advantages and disadvantages to such complex propulsion systems. But with the proper amount of time and effort, an informed decision can be made that will benefit those making such investments.

New JDP to Develop U.S.-Flagged Tanker

ABS and HD Hyundai Heavy Industries Co., Ltd. (HD HHI), signed a joint development agreement to support the development of a U.S.-flagged 50,000 DWT oil and chemical tanker. Under the agreement, ABS will review the HD HHI design in accordance with ABS Rules and U.S. Coast Guard requirements.

"This initiative with HD Hyundai Heavy Industries reflects our continuing commitment to supporting practical, forward-looking solutions for the next generation of U.S.-flagged vessels," said Patrick Ryan, SVP & CTO, ABS.

"In anticipation of growing demand for U.S.-flagged vessels driven by U.S. shipbuilding revitalization policies, we are working in close collaboration with ABS to address specific USCG technical requirements. Through this initiative, we aim to further strengthen our competitiveness in the U.S. market and deliver safe, compliant, and high-value vessel solutions for U.S.-flag operations," said Dongjin Lee, EVP, HD HHI.

M/V Bob Nienhuis for Hines Furlong Line

Hines Furlong Line, Inc., was delivered the M/V Bob Nienhuis, a boat built at Intracoastal Iron Works in Bourg, Louisiana and part of the company's ongoing 11-boat program. The 2,400-hp vessel measures 78- x 34- x 10-ft. and is configured with a triple-screw propulsion system powered by three Mitsubishi S6R2 Tier 3 engines, each rated at 803 horsepower at 1,400 RPM. The build also includes two Laborde-supplied generator sets, each rated at 65 kW, supporting onboard electrical systems and providing a consistent auxiliary power configuration across the vessel series.

Bob Nienhuis joins a growing list of vessels already completed under the program, including the M/V Donny Mudgett, M/V Sun Valley, M/V Oxford, and M/V Sawtooth. As additional boats move through construction, the program continues to center on a shared platform across propulsion and auxiliary power.

For Hines Furlong Line, that consistency is not just a matter of preference. Building multiple vessels around the same foundation creates a more disciplined and consistent approach to maintenance, operation, and long-term fleet management.

"When you're building a series like this, the last thing you want is for every boat to become its own case," said Karl Morley, Senior Engineer of New Construction & Leased Vessels at Hines Furlong Line, Inc. "We want the same core setup under these vessels so they run the way we expect, they can be maintained the same way, and our crews know what they're stepping onto."

Laborde Products supplied both the main engines and generator sets and worked with Intracoastal Iron Works and Hines Furlong Line throughout the build. The propulsion and power package carries through the broader program, supporting the same approach from one vessel to the next.

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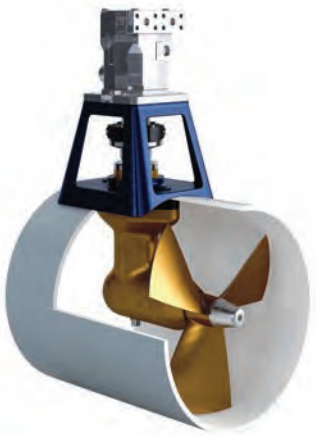

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2. Henriksen Launches New Slipway LARS System

A newly designed automatic launch and recovery system for small boats and unmanned surface drones (USVs), has been developed by Henriksen AS. The new system enables the automated launch and recovery of craft from the stern ramp of a mother vessel. The Henriksen slipway system now makes it possible for a police or military crew to board a RIB (Rigid Inflatable Boat) and be under way on the water in less than two minutes.

3. FET Launches New LARS Model

Forum Energy Technologies (FET) unveiled its latest solution in subsea handling equipment, the Model 6000 (M6000) Launch and Recovery System (LARS). Part of FET's Dynacon product line, the M6000 provides a compact, all-in-one solution for inspection and light work-class ROV operations. It integrates the A-frame, winch and hydraulic power unit into a single skid-mounted package, allowing for a single-point lift with no need for additional cabling or hose connections. This design streamlines mobilization and demobilization, reducing vessel interface time and onboard footprint. Key features include a gimbal docking head with swing and sway functionality, a compact footprint and pre-wired, plug-and-play electrical integration.

4. Sonardyne's Fetch Positioning Tech

A new deep-sea neutrino detector being built to transform our understanding of the universe will use precise positioning from Sonardyne. An array of Sonardyne's Fetch instruments will provide the precise and stable underwater positioning the 3,000 m deep Pacific Ocean Neutrino Experiment (P-ONE) needs to accurately detect and analyze high-energy neutrinos.

P-ONE, a multi-national, multi-institute scientific collaborative project, will help scientists to unlock insights into extreme cosmic phenomena like black holes and supernovae. The cosmic neutrino telescope will be built off the coast of British Columbia, Canada, leveraging Ocean Network's Canada's existing world-class advanced deep-sea infrastructure.

5. Evotec Launches Remote ROV LARS Solution

Evotec developed Evotec CORE Remote, a solution that enables launch and recovery of (Remotely Operated Vehicles (ROVs) to be performed from shore as a single, automated operation. Evotec CORE Remote is now in operational use by DeepOcean from its Remote Operations Center (ROC) in Haugesund. Operations are carried out using the unmanned vessel USV Challenger, purpose-built for remote subsea operations.

For DeepOcean, remote operations represent a different way of organizing work. When operators no longer need to be physically offshore, the need for rotation and mobilization is reduced, while operations can be carried out with an even higher level of safety.

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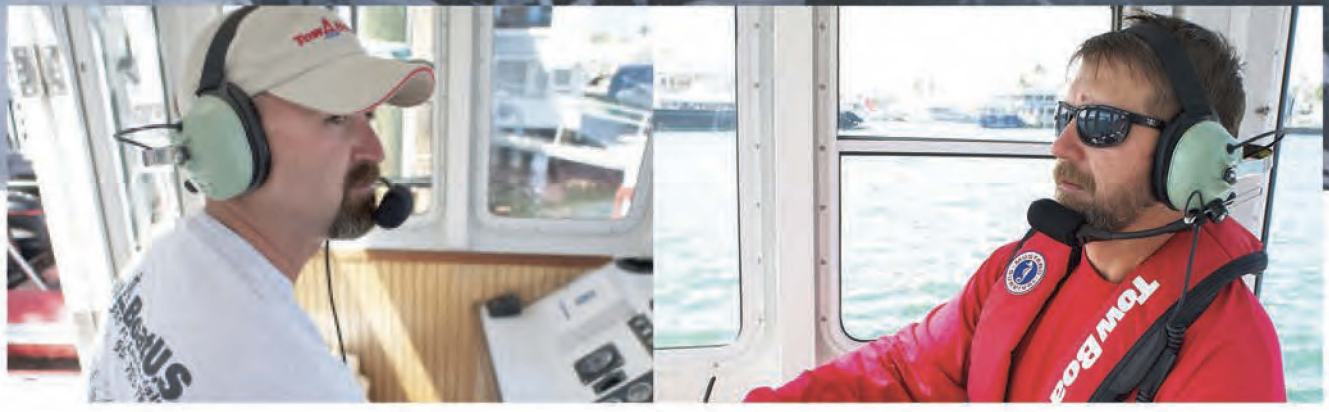

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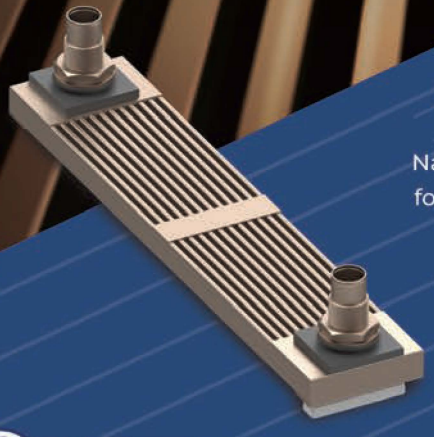

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