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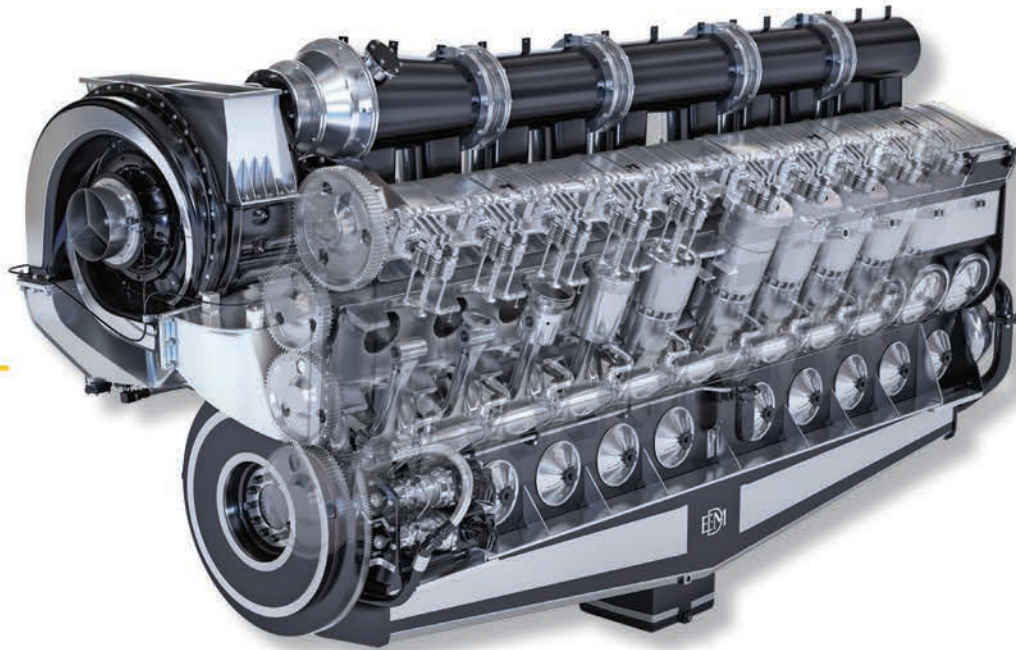
Bill Dutra

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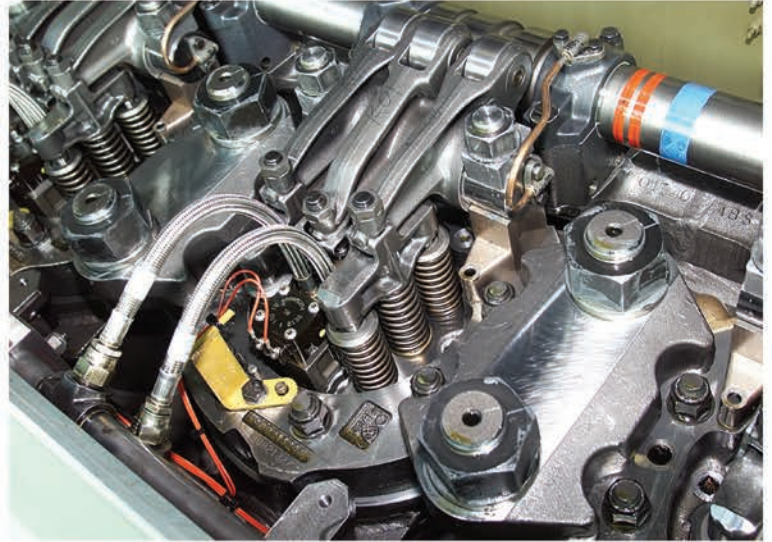


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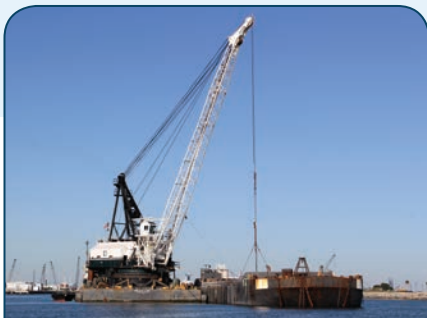
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The Dutra Group

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From port deepening to river and channel maintenance, dredging is the lifeblood of America's vast network of ports and waterways.



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Editor's Note



Eric Haun, Editor,
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The March 2021 Ever Given grounding in the Suez Canal swiftly thrust ships and shipping to a level of public attention seldom seen by an industry that is all too often out of sight and out of mind. Think about it. How often is a maritime story top news globally? Not very.

But just as quickly as Ever Given jokes and memes took over the internet, the maritime spotlight was outened and the world moved on as the 20,000 TEU mega containership was refloated and towed away six days later. Amazingly, the 400-meter ship was freed without major catastrophe. Yes,

the lingering impacts stemming from the blockage of one of the world's top shipping arteries will remain for some time still, but the reality is that the situation could have very easily been so much worse. Thankfully, it wasn't. This is in large part due to the steady digging, tugging and pulling performed by a diligent fleet of large-capacity dredgers and powerful tugboats.

If large ships such as the Ever Given get very little attention on a normal day, dredgers and workboats typically receive even less despite their key role in global trade. Dredging—the main topic of this issue—is the lifeblood of the maritime industry, ensuring ports and waterways are navigable and safe for vessel traffic. In the U.S. alone, more than 400 ports and 25,000 miles of navigation channels are dredged to ensure maritime commerce flows efficiently. Certainly, this is an industry worth noticing.

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In October 2018 Eastern's shipbuilding facilities were heavily damaged by Hurricane Michael, a category 5 hurricane that was the strongest hurricane ever to hit the Florida panhandle and the third strongest hurricane ever to hit the United States. Within days Eastern began rebuilding and within weeks its shipyards restarted production on its existing commercial and government contracts. Eastern's established business partners assisted in the recovery and within a short time much of Eastern's capabilities were up and running again; the economy of the Florida panhandle depended on it. While not complete, the shipyard's rapid recovery to date is a testament to Eastern's commitment to its valued customers.

A little more than two years later, Eastern Shipbuilding Group and the rest of the community continues to recover and is committed to building superb ships competitively for both its government and commercial customers. Eastern remains one of the most technologically advanced shipyards in the United States.



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By the Numbers

Grain Barge Rates

The U.S. inland waterway system utilizes a percent of tariff system to establish barge freight rates. The tariffs were originally from the Bulk Grain and Grain Products Freight Tariff No. 7, which were issued by the Waterways Freight Bureau (WFB) of the Interstate Commerce Commission (ICC). In 1976, the United States Department of Justice entered into an agreement with the ICC and made Tariff No. 7 no longer applicable. Today, the WFB no longer exists and the ICC has become the Surface Transportation Board of the United

States Department of Transportation. However, the barge industry continues to use the tariffs as benchmarks as rate units.

To calculate the rate in dollars per ton, multiply the percent of tariff rate by the 1976 benchmark. As an example, a 200% tariff for Minneapolis-St. Paul barge grain would equal 2.00 times the benchmark rate of \$6.19, or \$12.38 per ton.

Each city on the river has its own benchmark (see table below), with the northern most cities having the highest benchmarks.

Benchmark	Rate	Ports Included
TWC TWIN CITIES	619	Minneapolis, St. Paul, Red Wing, Shakopee, Winona, MN
MM MID-MISS	532	Albany, Keithsburg, New Boston, Rock Island, IL; Clinton, Davenport, Muscatine, IA
ST. LOUIS	399	Alton, Chester. E. St. Louis, Faults, IL; Cape Girardeau, St Louis, MO
ILLINOIS	464	Beardstown, Florence, Hardin, Havana, Meredosia, IL
CINC	469	Cincinnati
LOWER OHIO	446	Louisville, KY
CAIRO-MEM	314	Birds Point, Linda, New Madrid, MO; Hickman, KY; Cairo, IL

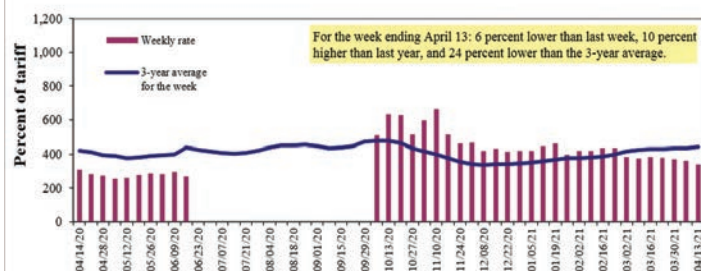
Weekly Barge Rates for Major Grain Shipping Points on the Mississippi, Ohio, and Arkansas Rivers: Southbound only

		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate ¹	4/13/2021	425	343	338	230	280	280	221
	4/6/2021	460	372	359	250	308	308	226
\$/ton	4/13/2021	26.31	18.25	15.68	9.18	13.13	11.31	6.94
	4/6/2021	28.47	19.79	16.66	9.98	14.45	12.44	7.10
Current week % change from the same week:								
	Last year	12	6	10	12	35	35	15
	3-year avg. ²	-16	-25	-24	-34	-27	-28	-31
Rate ¹	May	411	341	330	229	272	272	220
	July	405	334	324	226	266	266	218

¹Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); ²4-week moving average; ton = 2,000 pounds; "-" not available due to closure.
Source: USDA, Agricultural Marketing Service.

	TWC	MM	ILL	ST LOUIS	CINC	LOH	CAR-MEM
Benchmark Tariff Rates	6.19	5.32	4.64	3.99	4.69	4.04	3.14

Figure 8
Illinois River barge freight rate^{1,2,3}



¹Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); ²4-week moving average of the 3-year average.
³No rates data from 06/23/20 to 9/29/20 due to the lock closure for rehabilitation and replacement of lock machinery.
Source: USDA, Agricultural Marketing Service.

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Bill Dutra

CEO, The Dutra Group

Bill T. Dutra, CEO of San Rafael, Calif.-based The Dutra Group, is a walking encyclopedia on dredging and marine construction, having built his business from the ground up starting at age 26. But the man, who is often seen in his signature Stetson or Borsalino hat, transcends pure business and engineering acumen, firmly grounded in his family and his community, working to build and maintain a “we” company that exists not simply to bolster its bottom line, but to make better the lives for employees, clients and communities.

By Greg Trauthwein



All images: The Dutra Group

To fully understand Bill Dutra and The Dutra Group, you have to start from the beginning, and in that we mean looking at the Dutra family as it emigrated to California's San Joaquin Valley via covered wagons. Because when you talk to Bill Dutra today, via words and actions you can see that he leans heavily on his roots, personal and professional, from the hat that often sits upon his head—a nod to his grandfather and his influence to ensure he became the first Dutra to graduate college—to his strong affinity for the local San Joaquin Valley communities and families.

The Dutra name is synonymous with the construction and maintenance of the California Delta levee system, with Antone Dutra starting in 1904, follow by his son, Edward Dutra in 1933 and followed by Bill, who in 1972 at the age of 26 formed Dutra Construction Company, Inc. based in Rio Vista, California.

Looking back, Dutra said “you have to remember that in

those times the dredge captain, the lever man on the dredge, the deck hands, the cooks, and the labor force was pretty much family,” said Dutra. “You didn't have the highways that we have today, so you lived and you worked onboard.”

As a young man, while Dutra worked alongside his grandfather for a short bit and his father, following in their footsteps was not a given. “I was not, shall we say, ‘a manageable individual’ in my earlier years,” remembers Dutra. “I did not like going to school and I found a passion for the sea.”

The family business was in fact not passed down, as his grandfather started, then sold, the company, only to reenter the dredging business later on with his son, Bill's father.

“I dropped out of high school at a very early age because I wanted to be challenged by the sea and work on towboats and in marine construction,” said Dutra. “I had a bit of a maverick in me in my earlier years. I always knew that I had a passion [for the dredging business]. I was born into

Insights

it, and I grew up in it. But I didn't know how well it would work for me. I was comfortable as a towboat operator."

But influenced by his father and grandfather, as well as several key professional mentors, he eventually was convinced to start using his brain instead of his brawn.

"Thinking from the shoulders up ..."

In the 1960s Dutra leveraged a small life insurance policy from his grandfather into seed money for a college education at Oregon Technical Institute, pursuing a program that was 50% engineering and 50% business orientated. "It really encouraged me, and I felt that, maybe one day I can have my own business." A key moment for Dutra after college was the realization that he didn't want to be a professional engineer, rather a contractor, so he earned his contractor license and went back to work for his father for a short time.

Shortly thereafter there was a big flood in the lower end of the San Joaquin Valley where cotton farmers had lost

more than 100,000 acres of ground, requiring a sizable land reclamation solution.

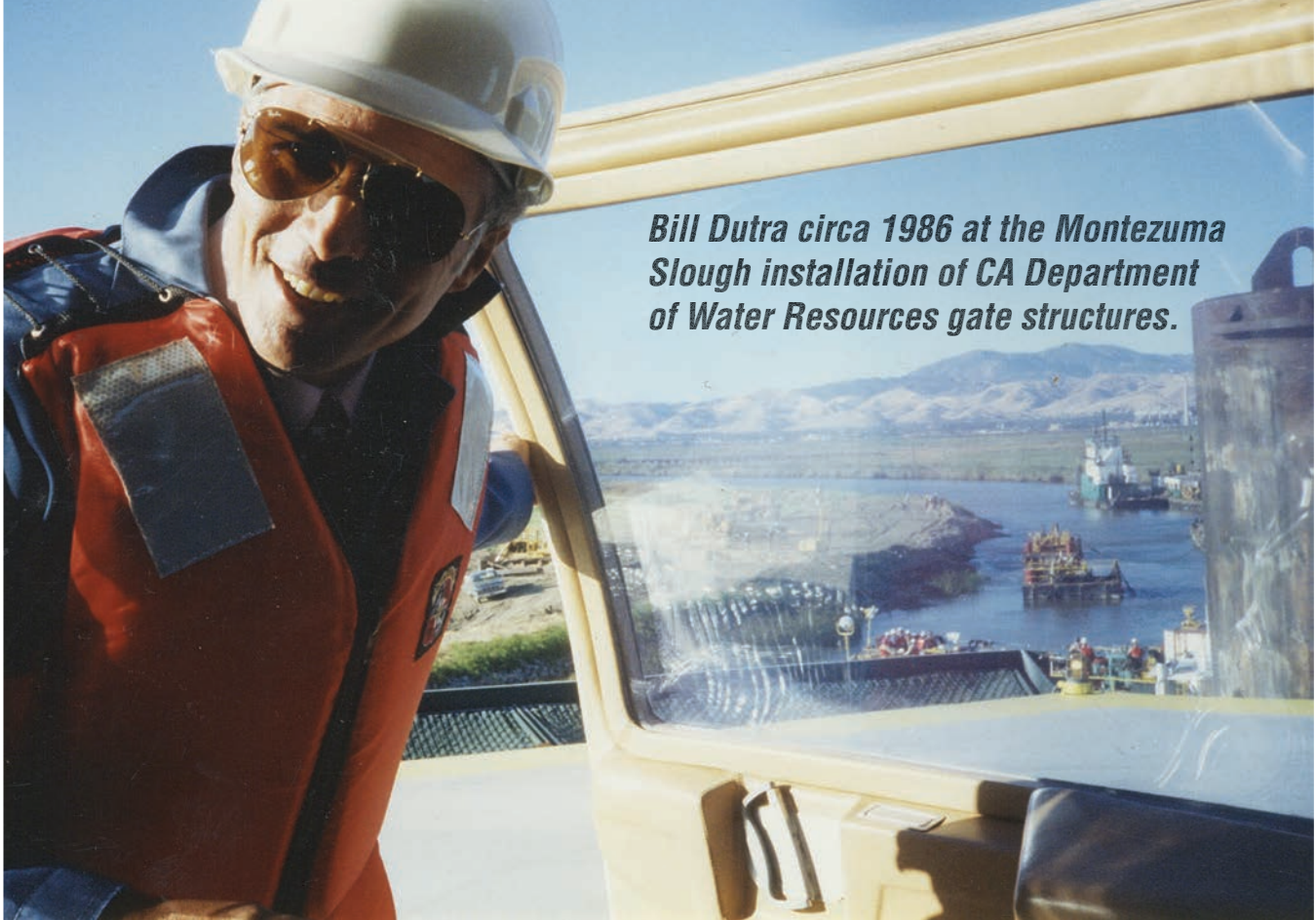
"I bought myself a couple small drag lines and excavators and I kind of started like my grandfather did, in the ditching business," said Dutra. "Working with and helping those cotton farmers was a great experience for me, and I learned a lot about land reclamation, ditching and building levees."

"I'm very passionate about the San Joaquin Valley, the Sacramento region and the farmers. They trusted me, they gave me my start," said Dutra. "When the floods came a lot of livelihoods were wiped out, and they weren't just a number or an address; they were my friends, they were my family, and they were devastated. I put everything I could into saving their lands and helping them to regroup their livelihoods. That is a phenomenal thing for me, and in reward it grew our company tremendously."

His engineering education helped out on the practical matters in those early days, but it was the combined business

Dutra derrick barge Paula Lee performing dredging operations in Port Canaveral.





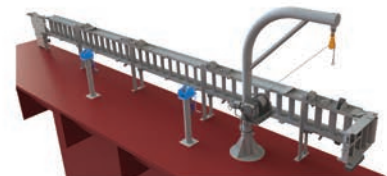
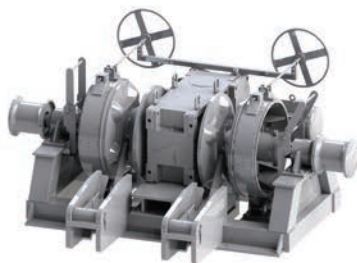
Bill Dutra circa 1986 at the Montezuma Slough installation of CA Department of Water Resources gate structures.

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education that helped him to effectively grow his business, an organic growth with some key acquisitions, too, including other dredging companies and a rock quarry. “When you’re just reclaiming land and digging ditches it’s [largely] a function of the weather, and your cycles could be long or short depending if there are floods,” said Dutra. “I always felt that we needed a multiple rate of return type of business.”

Powered by a growing population in the Bay Area, Dutra expanded into a marine construction and dredging business, and then expanded it outside of the Bay Area, so that today The Dutra Group is national, with more than 320 full-time employees experienced in dredging (70% of the business) and marine construction (30%).

As the company grew and expanded, its portfolio of projects became larger and more challenging, including its participation in “The Big Dig” in Boston to help build the Ted Williams Tunnel. Naturally there were plentiful challenges along the way, including one bad job in Miami that nearly cost Dutra his company. But on balance, Dutra and his team have been a steady force in the dredging community, not averse to taking calculated risks such as its entry into the hopper dredge market. Powered by the expansion of the Panama Canal and the need for ports to dig deeper to accommodate ever larger ships and booming commerce, Dutra “bet the family fortune” to enter into the hopper dredging business, a move that has thus far panned out well, driven by the high level of maintenance dredging need to keep key waterways open, from the Columbia River to the mouth of the Mississippi.

Bill Dutra is “all in”

“The dredging business has a lot of risk,” said Dutra. “When you deal with mother nature and you deal with the sea, there is no forgiveness. So you have to be all in. It’s nothing that you want to run from a golf course or the back of a country club ... at least not me. This is a ‘we’ company, so we are constantly improving our assets, our fleet, our technology, while at the same time improving our ability to be a low-cost producer.”

Being “all in” entails a commitment to many things—employees, community, safety—and a common denominator is building and maintaining a capable, efficient and diverse set of dredging and maritime assets. (For the full rundown on Dutra’s fleet visit: www.dutragroup.com)

“If you go back and you study the history of dredging and marine construction, it was a very mechanical business,” said Dutra. “Everything was pulling ropes and turning the big ship wheels. They didn’t have all the electronics and electric motors to make things move.”

Asked to narrow it to the one outstanding technology that has most improved the business, Dutra points to electronics and the ability to precision dredge as a key.

“I used to sit as a kid with a lead line and a rope to measure how deep I was dredging,” said Dutra. “Now, the operator sits in the pilot house and he has a screen showing exactly where he can dig under water. What’s exciting for me is I can be at home and see where my dredges are, how they are tracking and even their speed. If I see a problem, I can call them directly.”

The new technology also helps to attract the younger

Dutra Hopper Dredge Stuyvesant entering the San Francisco Bay.





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generation, as they are natives to the online, remote control access. “They can turn a switch on and go down and do a virtual tour of the engine room,” said Dutra. “The only way I used to go down the engine room was with a flashlight. And I had to go out the door to get down below, and you’d get concerned about getting flushed over the side. Now, you sit [in the pilothouse] and do a virtual tour of everything.”

A big part of the technology equation is, of course, the dredge and marine construction equipment itself: large pieces of heavy machinery that are designed to last more than three decades.

“Somebody asked me once, ‘Why are you getting rid of that old dredge?’ I said, ‘What are we going to do ... go to the cemetery to find somebody to run it for us?’” said Dutra.

While the team at Dutra scrutinizes fuel consumption, maintenance schedules, ergonomics and all aspects of crew comfort as it pertains to living and working there safely, when evaluating newbuilds, perhaps most important from the business aspect is an asset that is multifunction.

“I’m constantly looking at refurbishing the fleet, to really understand my customers’ needs,” said Dutra. “But in this world today you don’t have the privilege of building a single rate of return type of asset. Today, you need a dredge fleet that has a multiple rate of return. For example, I have a dredge the Paula Lee that’s a great clamshell dredge. Is she

the best clamshell dredge in America? Probably not. But she can go to Hawaii and dredge, and then she can drive piles, and then she can lift heavy beams.”

Opportunity ahead

With aging and decaying infrastructure, combined with the need for ports to modernize to better facilitate the growth of maritime commerce, Dutra sees plentiful opportunity to keep his company on solid footing for the coming years. “We have a decayed infrastructure in certain areas,” said Dutra. “Our roads, our highways, our ports need a capital shot in the arm. And they need an infusion to help expand to keep us competitive.”

The greatest challenge to the future success of his business will not be a lack of opportunity, rather addressing the challenge faced by many across the maritime sector in attracting, developing and retaining a strong, productive and vibrant workforce.

“You’ve got to make it attractive for them, and I think that we do,” said Dutra. “We spend a lot of time studying the overall chemistry and makeup of individuals, and ultimately, we’re not an ‘I’ company, we’re a ‘we’ company, and we do our best to show that we are a better, more vibrant and safer place to work by all of us working together. If you don’t change with the times you get left in the dust.”

Dutra Museum of Dredging

The Dutra Museum of Dredging was created in Rio Vista, Calif. in 1978 by Edward and Deolinda Dutra in a 1907 Craftsman house to showcase the Dutra Historical Collection, a private collection of materials representing the history of sidedraft clamshell dredging and the important role the Dutra family has played for more than a century in reclaiming the Sacramento-San Joaquin Delta, San Francisco Bay and beyond. It includes photographs, logbooks, dredge models, linen drawings, artifacts and a family history mural painted by Delta artist Marty Stanley. dutramuseum.org

The article is reprinted from the March e-magazine edition of Maritime Reporter & Engineering News.



Dutra's Derrick Barge Paula Lee performs dredging work for the Port of Oakland 42 ft. deepening project.

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Column

Passenger Vessel Safety

Choose Wisely: A Deeper Dive into Domestic Passenger Vessels SMS Proposed Rulemaking

By Richard J. Paine, Jr., Vice-President, HSSQE, the Hornblower Group

On January 15, 2021,

the U.S. Coast Guard issued an Advanced Notice of Proposed Rulemaking (ANPRM) for Safety Management System (SMS) requirements in the domestic passenger vessel industry (Docket No. USCG-2020-0123). This requirement will have the largest implications on the domestic passenger vessel industry since the revisions of 46 CFR Subchapter T & K in the mid-90s. However, the question remains, is it necessary?

Over the last three decades, the effectiveness and need for Safety Management Systems (SMS) have been at the forefront of discussion by operators and regulators in all maritime sectors, both domestically and internationally. The most recent domestic regulatory requirement was introduced in the tugboat and towing vessel industry with Subchapter M in 2016. The development and introduc-

tion of Sub M took nearly a decade to be fully introduced as regulation. Today, the greater domestic passenger vessel industry is facing potentially the same fate (outside of those vessels that already comply with safety management system standards found in 33 CFR 96). This type of decision brings up new questions and concerns to owners and operators. Is this a positive change? Is it necessary? Does it correct the “problem”? Many owners and operators are currently deliberating the pros and cons to this impending and critical requirement. Although, there are many areas of a Safety Management System to be discussed, this article will focus on three key areas to support both sides of the argument: (1) External Audit Certification, (2) Defined Management System Processes and (3) Cost.

Before we dive into the pros and cons, we need to iden-

A fire aboard the 75-foot dive boat Conception killed all 33 passengers and one of the vessel's six crew members in September 2019.



Ventura County Fire Department

Column Passenger Vessel Safety

tify a critical historic reference point to better judge the subject at hand. Are you familiar with the date, March 6, 1987? If not, you should be. It is the date of the catastrophic flooding incident involving Ro/Ro and passenger ferry MV Herald of Free Enterprise. The vessel was underway from Belgium to England when it quickly took on water through unclosed bow doors. It sank within minutes, taking the lives of 193 passengers and crew. The reason this incident and date are critical is because this was, at the time, a modern vessel with current technology and manned by highly qualified crew. The cause of this tragedy was a combination of human error, a lack of situational awareness and nonexistent shoreside support by management. This incident has been cited as a driver that led to the development and implementation of the International Safety Management (ISM) Code, the first regulated safety management system by the International Maritime Organization (IMO) in 1993.

Fast forward to 2021 and nearly 35 years later, Safety Management Systems (SMS) are still being discussed to determine their effectiveness and value in preventing catastrophic losses to people, property and the environment. Recent U.S. flagged vessel incidents, such as the Conception dive boat fire in 2019 off of Santa Cruz Island, Calif.; Branson, Mo. Stretch Duck 7 duck boat sinking in 2018 and the U.S. cargo ship El Faro sinking in 2015 have raised the attention of the country and regulators on Capitol Hill. However, before these catastrophic incidents, the domestic passenger vessel industry had been safely operat-

ing for years with strong safety records. This conflicting historical assessment of safety in the industry has led to continued ongoing debates on whether any of these previous, or more importantly, future incidents could have been or will be prevented by a SMS.

Now, let's dive deeper into both sides of the argument.

(1) External Audit Certification including Third-Party Operators: Currently, the USCG conducts inspections on domestic passenger vessels for safety. Only those operators that elect to participate in a certified safety management system require third-party, non-federal, auditors to verify the effectiveness of their SMS.

Pros:

- Industry expertise: Independent auditing bodies offer value by providing an expertise in their field to review a company's SMS implementation and effectiveness.
- Impartial review: Audits are completed with no conflict of interest.
- Competitive market: Multiple auditing bodies offer owner/operators with alternatives that can meet their budget, drive professional competition and offer scheduling flexibility.

Cons:

- Existing regulatory enforcement/relationship with the U.S. Coast Guard: The USCG inspection process already exists and involves routine onboard regulatory safety inspections. There is an avenue to expand potential audits through this process.
- Audits are only as good as the auditor: Internal au-

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Passenger Vessel Safety

dits can be as effective as an external audit, as long as there remains objectivity by the auditor.

- TPO oversight: Third Party Organizations are not all created equal and will still require oversight to remain in good standing with regulators to audit operators. This becomes one more additional regulatory oversight for the USCG that is continually asked to do more with less resources.

(2) Defined Management System Processes: A management system clearly identifies certain aspects of how an operation manages safety. This can include written emergency plans, procedures, training and other areas of focus.

Pros:

- Clear Identification of roles/responsibilities: SMS clearly require a company to identify roles and responsibilities, including master's overriding authority.
- Written procedures: Written procedures are required in most SMS, which helps communicate to crew and provides tangible documents for training and review.
- Company commitment: SMS requires management to develop a written policy that clearly demonstrates their commitment and support of safety.

Cons:

- Safety culture isn't written: A written binder of procedures, processes and duties doesn't single-handedly correct safety without a safety culture that is formed and supported through organizational leadership. A safety culture is more effective than written requirements found in a traditional SMS.
- Written doesn't mean right: Procedures can be effectively implemented through an operation without them being written for reference. Communication, accountability and training are not required to be written to demonstrate competence and understanding.
- One size doesn't fit all: There may be more value for larger operations and fleet sizes, but some operators are single vessel seasonal operations where the owner is the master, the mechanic, the safety professional and the accountant.

(3) Costs of implementation: Safety is sometimes difficult to quantify in financial terms because "safety" doesn't generate revenue, instead, its value to a company is through the return on investment (ROI) and preventing future loss.

Pros:

- Safe work environment: Applying safety resources, such as training, personal protective equipment, reward programs and safety management has a history of yielding safer work environments.
- Lower insurance: Insurance carriers will offer better terms/premiums when they determine an operator is successfully managing their risk. A functioning and financially supported safety management system can reduce incidents and reduce the costs spent on each claim, shared by both the insurance company and through operators' deductibles.
- Employee retention: Employees want to know that the company is committed to their safety. SMS provides a commitment to safety that is communicated through policy and commitment from top leadership. Employees are much more likely to stay at a company when they know the company is committed to safety from the top down.

Cons:

- Upfront costs: There is a cost to starting a safety management system. Labor costs, job creation, planning and development, training and simple printing material will be very much real expenses in the implementation period of an SMS. Based on the size of the operation, expenses can range from a few thousand dollars to hundreds of thousands of dollars.
- Reoccurring costs: Once the SMS is in place, operators will need to maintain the SMS through continued labor, training, review, as well internal/external audits, routine management, including new job duties.
- TPO market: Third party certifications will carry additional expenses to an operation. The TPO market will be driven by supply and demand. Limited or no alternatives may severely impact the marketplace for owners/operators. Some operations may not be able to afford those reoccurring costs and may require some to go out of business.

In the end, the decision will be up to operators and regulators to debate the topics at hand. The most important result of this debate will remain properly identifying the measures necessary to prevent future incidents and deaths from occurring. As they say, there always two sides to every story. Choose wisely.

Column Dredging

Impact of Dredging on Maritime Law

By Grady S. Hurley, Jones Walker LLP

In 1875,

the General Moultrie was the first suction dredge built in the United States and was used in the Charleston River — until it sank within a year. During the same era, the city of Houston and other port towns formed companies like the Buffalo Bayou Ship Channel Company to build special-purpose vessels to clear and connect waterways for commercial vessel traffic. Toward the end of the 19th century, the cutter suction dredge made its appearance and effectively dug and maintained water channels. The Foreign Dredge Act of 1906 prohibited foreign-built or chartered vessels from dredging in U.S. waters.

Since its early days, it can easily be argued that dredging

is vital to the security and economy of the United States. Present-day dredging maintains the navigable depths of our inland ports and waterways, restores the ecology of wetlands and rebuilds beaches exposed along state boundaries.

The U.S. inland maritime transportation system reportedly accounts for one quarter of the U.S. economy. A lack of maintenance dredging and increasing ship depths have left most U.S. harbors at full depth and width only 35% of the time. Recently, the U.S. Congress invested \$10 billion from the Harbor Maintenance Trust Fund to dredge harbors. The Corps of Engineers has also announced the dredging of the Mississippi River from its mouth to Baton



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Column

Dredging

Rouge, La., in order to provide a draft of 50 feet for 256 miles of deep-water commerce. Each additional foot of water depth draft equals about \$1 million of cargo per ship, impacting our national economy by \$127 million annually.

While the impact of dredging on our economy is widely known, the impact of dredging on the development of general maritime law through U.S. Supreme Court decisions is often overlooked. Our U.S. dredging industry has impacted both our laws and economy. Supreme Court dredging cases have addressed patent, labor and jurisdictional issues as well as shaped general maritime law since its inception. An overview of Supreme Court cases demonstrates the varied impact:

1883 – *Atlantic Works v. Brady*

A dispute arose out of the construction of a dredge and the validity of a patent for a component part. The Supreme Court held that the design of our patent laws was to reward those that made a “new and useful substantial discovery” that also made an advance in the useful arts.

1907 – *Ellis v. Eastern Dredging*

Members of a dredge crew were not subject to the eight-hour work limitations for laborers and mechanics as defined under a wage and hour statute. Presently, our Fair Labor Standards Act has an exception for seamen.

1920 – *U.S. v. Atlantic Dredging*

In a government contract dispute, appealed from the Court of Claims, the Supreme Court held that the private contractor could reasonably have relied upon government representations in its dredging agreement as it would a warranty.

1923 – *Great Lakes Dredge & Dock Co. v. Kierejewski*

The Supreme Court held that federal courts have maritime jurisdiction over an alleged wrongful death case under a “locality test” analysis and state law actions could not preempt maritime law.

1932 – *Brooklyn v. Eastern Dist. Terminal*

A government dredge collided with a tug. Mutual fault was found. The Supreme Court reviewed the question of loss of use/demurrage damages and a vessel owner’s duty to mitigate damages arising from a collision—the “substitute vessel” doctrine is still employed in considering loss of use claims.

1943 – *O’Donnell v. Great Lakes Dredge & Dock Co.*

A seaman was injured while repairing a dredge pipe on land. The Supreme Court extended the Jones Act remedy to him since the seaman was in the service of the vessel even though he was not injured on the vessel. The locality test did not determine the remedy, but rather the scope of employment.

1943 - *Standard Dredging Corp. v. Murphy and Great Lakes Dredge & Dock Co. v. Huffman*

These two decisions reviewed whether state statutes concerning the collection of taxes are constitutional and enforceable in maritime commerce situations and emphasized the tension between state and maritime jurisdictions and laws.

1956 – *Senko v. Lacrosse Dredging Corp.*

A handyman providing general maintenance to a dredge was injured by an explosion and sued under the Jones Act. The Court held that a jury had wide discretion in determining from the facts whether a “handyman” should be considered a “member of the crew” for Jones Act status purposes. The three-member dissent queried whether Senko was more or less permanently attached to a vessel in commerce. This debate still lingers.

1958 – *Kernan v. Am. Dredging Co.*

A fire occurred on a scow as the result of a statutory violation. In a rare case, the Supreme Court found “negligence per se” (where a rebuttable presumption of fault as a matter of law exists when there is a statutory violation related to the injury). Negligence per se still exists under general maritime law.

1994 – *Am. Dredging v. Miller*

As a rule, state law only applies where it does not change substantive maritime law. A personal injury suit was filed in state court under the Jones Act and Savings-to-Suitors Clause. The Supreme Court held that federal law does not preempt state law regarding the doctrine of forum non conveniens when the defendant sought to transfer it to another venue. This doctrine asks whether the chosen location where suit was filed is convenient to the defendant or whether the case can be transferred to a different locale. This doctrine is not substantive, but procedural, maritime law.

1995 – Grubart v. Great Lakes Dredge & Dock Co.

Employing a locality test analysis, the Supreme Court found admiralty jurisdiction where pile driving in the Chicago River caused a tunnel to collapse and flood the basements of several downtown Chicago buildings.

2005 – Stewart v. Dutra Constr. Co.

In a unanimous decision, the Supreme Court held that a bucket dredge and its tender were deemed to be a “vessel” for purposes of a personal injury claim. The Court gave a broad definition to “vessel” as defined in 1 U.S.C. 3 regarding “anything that floats.” This decision is now considered in light of *Lozman*, where the Court held a houseboat was not a vessel.

2009 – Atlantic Sounding, Inc. v. Townsend

An injured seaman is awarded maintenance and cure without regard to fault when an illness or injury manifests itself while in the service of a vessel. The Supreme Court allowed punitive damages for the willful or arbitrary failure of a Jones Act employer to pay maintenance and cure in a narrow 5-4 decision. Punitive damages are not allowed under the Jones Act but exist under general maritime law standing alone.

2019 – Dutra v. Batterton

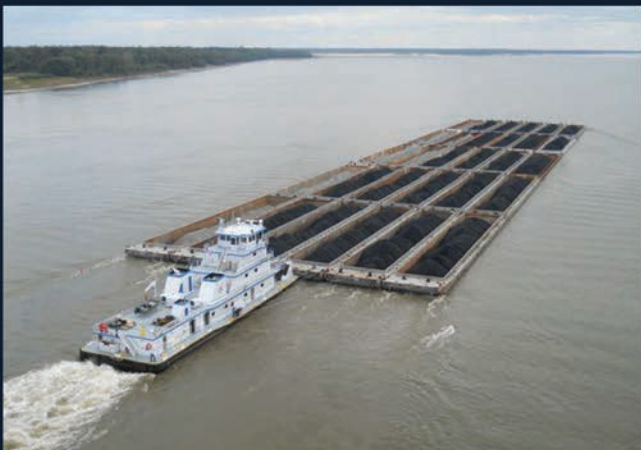
Ten years after *Townsend* and in a 6-3 decision, punitive damages were denied to a Jones Act seaman alleging both negligence and that the dredge was unseaworthy under general maritime law. The Supreme Court held that when a Jones Act claim is joined with a general maritime law claim of unseaworthiness, punitive damages are not allowed. This is distinguished from a maintenance and cure claim asserted purely under general maritime law.

The unique nature of dredging, its equipment and its personnel have created legal issues that have reached the U.S. Supreme Court in almost every decade since its early inception. In particular, the Supreme Court has grappled with what a vessel is in navigation, what the scope of Jones Act coverage is where individuals have responsibilities both on land and onshore, how and when punitive damages can be assessed for individuals injured on vessels, how state statutes affect the operations on navigable waters, and how far maritime jurisdiction can extend when maritime operations cause injuries on land. Dredging is not only vital to the U.S. economy and its security, but also to the development of general maritime law principles.



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Dredging:

Georgia Ports Authority

Important Developments Will Impact Business

By Tom Ewing

For dredging company officials, the first quarter of 2021 was a pretty good start to a new year. In a tough business, challenges and pitfalls are always expected. But from a bigger picture perspective—markets, regulations and policies—company officials couldn't be faulted if a bit of optimism infused their worldview.

There are a number of reasons for this. Many are well known and don't need to be detailed here. Just quickly, though, WRDA 2020 would be at the top of the list. WRDA, passed last December, provides new funding and policies that will expand dredging opportunities.

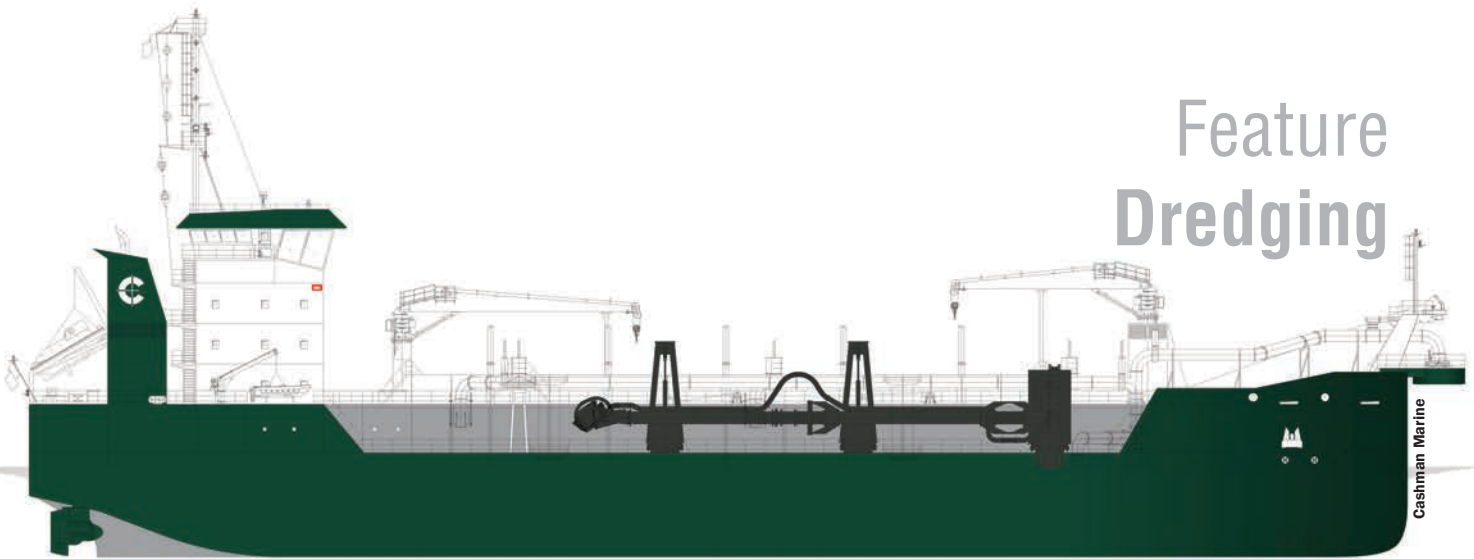
Just as important, dredging companies are ready to rock-

and-roll with new equipment. At Callan Marine, for example, the General Bradley is a new 341-foot, 28-inch cutter suction dredge (CSD) to be deployed in 2021. Callan's big 32-inch General MacArthur entered service in 2020.

Still to come, Weeks Marine expects delivery in 2023 of a 6,540 cubic meter trailing suction hopper dredge (TSHD). Manson Construction awaits, also due in 2023, a 15,000 cubic yard dredge that's 420 feet long and 81 feet wide. And Cashman Dredging and Marine Contracting Co., LLC recently signed a design contract with IHC America Inc. for a new 6,500 cubic yard TSHD expected to enter service in 2024.

Additionally, companies see new markets, particularly

Feature Dredging



Cashman Marine's new hopper dredge is expected to enter service in 2024.

offshore wind which got a big boost at the end of March when President Biden presented a national goal to develop 30 gigawatts of offshore wind by 2030. DOE Secretary Granholm said this effort would include \$3 billion in new energy funding, expected to leverage \$12 billion annually in direct investments.

Great Lakes Dock & Dredge (GLDD) is one company with its eye on these developments. GLDD is designing a rock installation vessel that will be used to anchor turbine foundations. Lasse Petterson, GLDD president and CEO, told *Marine News* in January that the new equipment “addresses specific needs in the growing offshore wind market.”

Also significant among these capital investments is GLDD’s investment in personnel. In January, the company named Eleni Beyko as senior vice president offshore wind. A naval architect and engineer, Beyko’s background includes managing the Makani wind-borne energy spar offshore platform installation in partnership with Shell and Google X.

For dredgers, Bill Hanson, GLDD’s senior vice president of government relations, cites two new challenges with offshore wind. One, projects will be in the open ocean and, second, in deep water, at depths greater than most coastal projects. “We anticipate complicated dredging for cables and other parts of the installations,” Hanson said. Investments in new, highly automated equipment will take on these challenges. “This will increase our efficiency,” Hanson explained, “and with accuracies that are re-ally impressive when you consider the scope of the work being done.”

Richard Balzano is CEO and executive director of the Dredging Contractors of America (DCA), starting that position in December 2020. Balzano’s maritime career includes

U.S. Navy service and Deputy MARAD Administrator.

As he looks ahead, Balzano foresees an increased number of projects moving through USACE’s contracting process. Balzano says that WRDA’s impact, as well as supportive moves from the Biden Administration, e.g., a recent EO that strengthens “Buy American” provisions, will help the industry “grow capacity and continue investments in newer and more efficient equipment.”

Balzano said dredging companies are watching to see how the process of new business develops. DCA seeks an expansion that will be efficient in awarding work and builds on industry’s capabilities. Project scheduling and the need to stay aligned with seasonal, environmental or safety factors are top concerns.

“I would say that scheduling is one of the foremost issues facing our industry,” Balzano explained. “There are a lot of demand signals that have to be coordinated and deconflicted to help maximize our industry’s capacity.”

The Corps’ harbors and waterways project list will expand as increased Harbor Trust Fund monies become available. The project selection process will be important, as will project scope, i.e., minimal efforts or full completion. These decisional issues were raised in a 2017 GAO report on inland harbors and dredging. GAO’s concern then was that the Corps’ analytical tools fell short in evaluating comparative benefits across a range of project options.

GAO recommended the Corp assess its existing tools and capabilities when allocating funds from the Harbor Maintenance Trust Fund. These are still open, unresolved concerns at GAO.

Scheduling and coordination are also common concerns in discussions about “beneficial use” (BU).

Feature

Dredging

Again, referencing WRDA 2020, Congress expanded demands for BU, establishing a “National Policy on the Beneficial Use of Dredged Material.” WRDA expands BU demonstration projects from 20 to 35. Additionally, it requires Corps District Commanders to develop—within one year, less than eight months as this report is written—five-year regional dredged material management plans which need to include BU evaluations and goals.

BU is not easily done. Demonstration projects have moved slowly or haven’t started. In December 2018, for example, the Corps selected ten demo beneficial use projects. In a June 2020 update report to Congress, just three were finished.

Beneficial use has many inherent challenges: demand, supply, timing, transport, contamination, to name just a few. Plus, officials who need sediment frequently aren’t

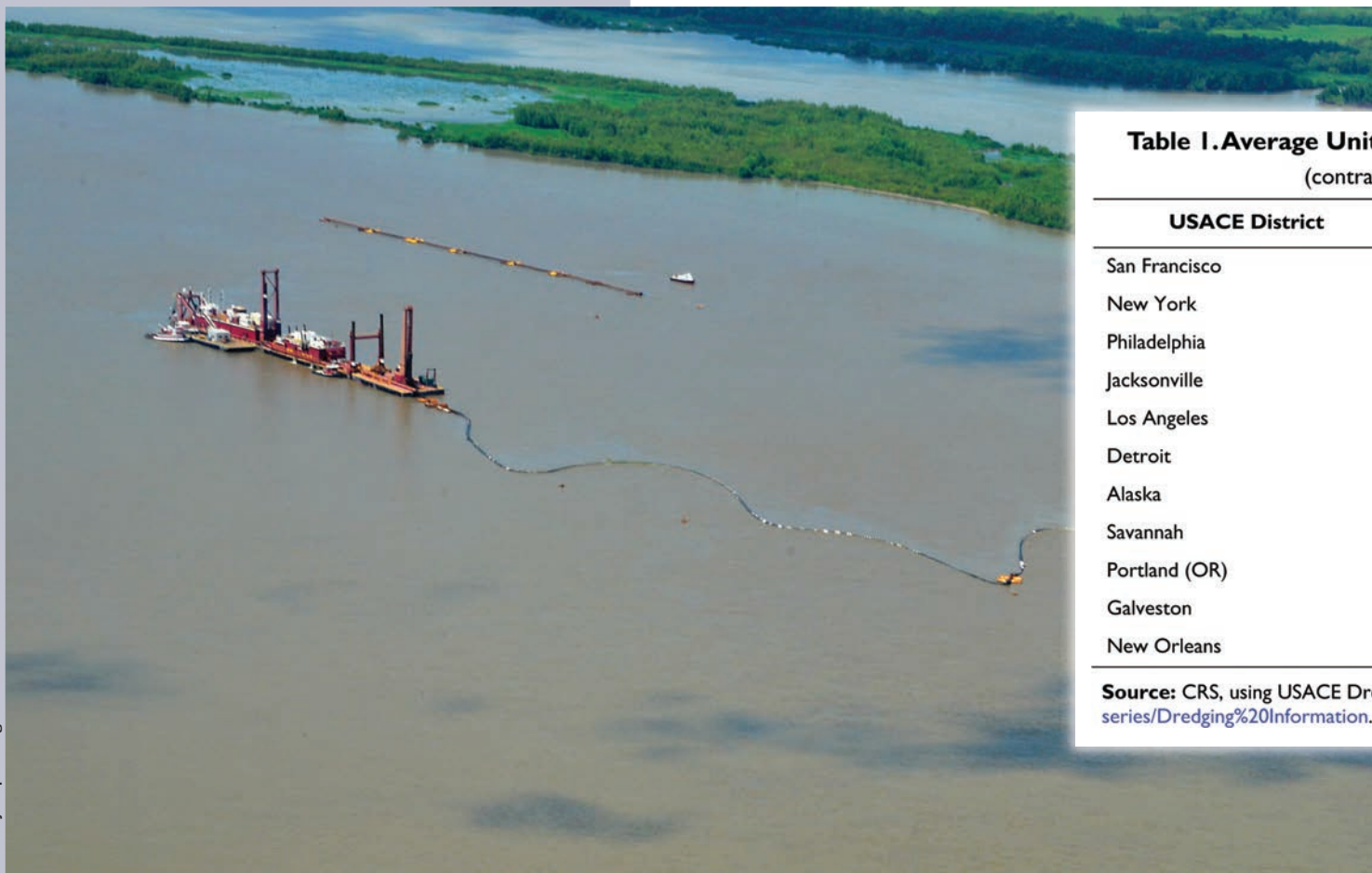
aware of available supplies. The reverse is true for dredgers who may be aware that certain material has value but unaware of who needs it, and when.

Inertia is also a challenge; we’ve always dumped in the bay or the ocean. We keep dumping in the bay or the ocean.

New Ideas

In San Francisco a coalition of groups working on Bay restoration projects has developed an online tool called SediMatch, which functions as a material exchange. SediMatch seeks to make beneficial use a business-as-usual practice instead of an exemplary anomaly (one of the still unfunded 2018 demo projects is in the San Francisco Bay area).

SediMatch is a collaborative program of the San Francisco Bay Joint Venture (SFBJV), the San Francisco Bay Conservation and Development Commission (BCDC), the



U.S. Army Corps of Engineers

Table 1. Average Unit
(contract)

USACE District
San Francisco
New York
Philadelphia
Jacksonville
Los Angeles
Detroit
Alaska
Savannah
Portland (OR)
Galveston
New Orleans

Source: CRS, using USACE Dredging Information series/Dredging%20Information.

Feature Dredging

“Scheduling is one of the foremost issues facing our industry. There are a lot of demand signals that have to be coordinated and deconflicted to help maximize our industry’s capacity.”

– **Richard Balzano**,
CEO and Executive Director of the
Dredging Contractors of America



DCA

Cost of Dredging by Selected USACE District
(Cubic Yards Dredged > 100,000 cubic yards, 2014 to 2018)

Cubic Yards Dredged	Cost per Cubic Yard
5,398,939	\$ 24.27
11,908,916	\$ 23.17
6,037,757	\$ 19.93
22,447,059	\$ 14.86
1,283,153	\$ 13.20
3,064,310	\$ 9.40
5,550,057	\$ 8.58
37,140,202	\$ 6.52
30,983,332	\$ 5.29
76,646,189	\$ 3.80
105,894,803	\$ 2.62

Dredging Information Statistics at <https://publibrary.planusace.us/#/>

CRS, using USACE Dredging Information Statistics

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Dredging

San Francisco Estuary Institute (SFEI), the San Francisco Estuary Partnership (SFEP), and other groups. A central goal was developing an easily accessible database matching sediment needs with surplus sediment—the critical inputs to make beneficial use succeed.

Briefly, it's important to recall some of the information required within WRDA 2020's five-year plans: identifying reuse projects and estimating capacity; beneficial use goals; and project descriptions identified through stakeholder solicitation and coordination.

SediMatch presents all of this information. Data is within an Excel spreadsheet and it is extensive, providing, for example, contact information, material quantities, availability and transport information. Again, SediMatch is only focused on San Francisco Bay. Its underlying concepts, though, are likely applicable in any region with dredging and reuse goals.

In an interview, Brenda Goeden, Sediment Program Manager with the San Francisco Bay Development Commission, explained that a regional San Francisco goal is to maximize

best use of 40% of dredged material, in wetlands, for example, or flood control or recreation projects or as foundational material, as appropriate, for bike paths and roads.

Dumping sediment into the ocean or Bay is relatively cheap, Goeden said, just requiring time and travel costs to a dump site. Dumping, however, presents its own environmental and ecological issues and frequently faces strong opposition.

Goeden sets BU policies in a broad context. First, she notes that multiple projects in the Bay area require sediment, again, for wetland restoration or flood control. Then, she notes the Army Corps' three central missions: navigation, ecological restoration and flood protection. "With BU," she says, "the Corps can deliver on all three missions with one scoop. That would be a real big change."

Expanded coordination across federal agencies would be especially helpful. For example, an Army Corps navigation project will produce sediment. A U.S. Fish and Wildlife Service project frequently needs sediment for habitat for wetland and fish species, also beneficial to NOAA. The



© Lynn Yeh / Adobe Stock

Department of Interior frequently needs sediment for parks or recreation purposes.

The point is, Goeden emphasizes, a more holistic approach among agencies could lead to different decisions. It may not make sense for the Corps to pay to send barges 55 miles to San Francisco's closest dumping site when managers at other federal Bay projects need sediment. (A 2019 Congressional Research Service report lists San Francisco with the most expensive unit cost for dredging in the country: \$24.27 per cubic yard. New York is next: \$23.17. Cheapest is New Orleans: \$2.62.)

For beneficial use, operational changes are a challenge. Federal regulatory inertia can keep existing practices in place. Goeden references the "federal standard" which looks only at least cost and environmentally acceptable vs. environmentally beneficial or even preferred.

Goeden expressed optimism though about new directions. After all, federal agencies are active partners within the Bay's restoration efforts. And she thinks that WRDA 2020 will begin to push dredging and beneficial use into greater alignment. She cites as helpful WRDA's Section 125 which references nature based benefits when considering a federal standard. Another change that's needed: Private sector companies need to become more active in the SediMatch database.

SediMatch's opening page presents two critical numbers: 693,205 cubic yards total sediment available and 33,401,125 cubic yards wanted in total. That's over 10 years.

There should be enough time to make some changes.

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Remotely Operated Locks: *Progress, but Still Under Study*

By Tom Ewing

All images: U.S. Army Corps of Engineers

Feature Inland Waterways

The U.S. Army Corps of Engineers (USACE) is evaluating remote operation of locks within the U.S. inland waterways system. Timetables are hazy, but the Corps plans to include remote operations capabilities during rehabilitations or new construction, in the work planned, for example, in the Upper Ohio Navigation Project, part of the USACE's Pittsburgh District.

In fact, the first install project is being readied at Lock & Dam 4 on the Monongahela River. L&D 4 is also known as Charleroi Locks and Dam because it's at Charleroi, Pa, at river mile 41.5, between Pittsburgh and Fairmont, W.Va. This work is part of the larger Lower Mon Project in which L&D 4 are being modernized (while Locks and Dam 3, at Elizabeth, Pa., are being removed).

Vincent De Carlo, P.E., is deputy chief, operations division for USACE's Pittsburgh District. Mark Jones is the district's chief of engineering and construction. They explained that, when complete, Charleroi will be able to lock tows remotely controlled from a control tower. Remote lock operations would allow one set of operators in a central location to operate multiple facilities, providing an additional level of service, particularly where a lock isn't being used to capacity. The Charleroi work should be finished by the 2024 timeframe.

If testing is successful, remote lock operations are expected to expand throughout the inland waterways. The Pittsburgh Division is at the forefront of the investigative work.

Historically, remote operations is a long-studied subject for the Corps, and the Pittsburgh District. This report focuses on more recent work, developed within the last five years.

USACE headquarters was asked for an update on remote lock operations. In an email, a spokesperson said remote lock operations play an "essential role" in USACE's navigation mission. In addition, "it plays a vital role in revolutionizing USACE to be a world-class organization which maintains technologically modern projects and programs."

The Corps' long term view, according to the spokesperson, is that remote operations can ease some significant emerging challenges. These challenges include shifts in commercial traffic, constrained operations and maintenance budgets and COVID-19. These impacts are testing "the resiliency and economic viability of the nation's navigation system."

Despite these assertive remarks, there are no system-wide answers yet for implementation. The Corps wants to know more about costs and benefits, risks, and the feasibility of retrofitting existing facilities.

Prior to the Charleroi work, and until very recently, remote operations were studied at Gray's Landing L&D, another Lower Mon project, at river mile 82. Gray's Landing was to be a "proof of concept of remote operations which could then be adopted on lock projects across the Corps," USACE wrote in a summary paper. Gray's Landing received \$457,000 for remote ops design and coordination efforts in FY17. That initial work was deemed successful and project managers requested \$2.8 million to advance construction. Subsequent funding, though, never happened.

De Carlo and Jones explained that in the overall O&M program, the Grays Landing demonstration "did not

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Feature

Inland Waterways

compete well.” Additionally, from a technical standpoint, Grays Landing needed redesign and new cost estimates because it did not meet current cyber security requirements. “The control portion of the Charleroi project was also in design,” De Carlo explained, and subsequently judged “a better fit for our first cyber secure remote operations project.”

Jones and De Carlo didn’t provide Charleroi budget numbers. They did say that “the added expense of remote operations is relatively small compared to the size of the recapitalization associated with new construction.” On existing facilities, though, remote ops costs may be significant depending on the type, age, and features of existing operating equipment. Recurring operations and maintenance costs are still being calculated. De Carlo and Jones said the

Corps is “working with partners in other countries to better understand and account for these activities and costs.”

Remote ops received some public attention during WRDA 2020 discussions.

U.S. Rep. Glenn “GT” Thompson, for example, who represents western Pennsylvania, referenced the Gray’s Landing work in WRDA 2020 testimony. “The goal is to demonstrate the viability of remote lock operations on a large-scale commercial waterway within the inland navigation system,” Thompson said, adding that automation and remote operation “will significantly reduce operation costs without negatively impacting transit.”

After WRDA 2020 was finished, though, remote ops dropped off the radar, at least its public profile. Except for



Feature Inland Waterways

the HQ update referenced above, staff at USACE headquarters has been reluctant to discuss remote ops projects, especially regarding money and budgets, under review now by the Office of Management and Budget (OMB).

It's worth noting that OMB is a busier than usual place these days because it was recently charged with reviewing a wide range of policies and programs and whether those directives align with President Biden's priorities (Executive Order 13990). Funding for remote ops work may be stuck in a stack of files that's become much bigger than usual. HQ would not provide any details on this budget process.

Program funding is additionally important because to the extent remote operations proceeds, it's better to include it early in project planning rather than as a retrofit, after an overall project—new construction or major rehab—is large-

ly complete, or even designed.

Another view of remote operations comes from documents from PIANC, the "Permanent International Association of Navigation Congresses."

In 2018 PIANC published a report titled "Developments in the automation and remote operation of locks and bridges," a compendium of remote ops projects worldwide. The PIANC link is important. As noted above, as the Corps proceeds with remote ops re-search, it is staying in touch with lessons learned internationally.

PIANC's 2018 document presents two remote ops projects underway in the U.S. and one in Canada. In the U.S., one project presented at that time was at Gray's Landing, since supplanted by Charleroi, as described above.

A 2019 update report, likely including results from the

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Feature

Inland Waterways



Mark Jones,
Chief of Engineering and
Construction, USACE
Pittsburgh District

Vincent De Carlo,
P.E., Deputy Chief,
Operations Division,
USACE Pittsburgh District

Corps' work—either at Gray's Landing or Charleroi—is generally unavailable to the public. PIANC is a membership organization, and its reports are copyrighted, free to members but costly for non-members, making it difficult to review the Corps' newer, updated work. The Corps abides by PIANC's restrictions.

The second U.S. project (not sponsored by the Corps) was at the Houma Navigation Canal Lock Complex, part of a larger effort to reduce salinity in the Houma Navigation Channel, at Houma, La. This infrastructure work is within Louisiana's Comprehensive Master Plan for a Sustainable Coast.

At Houma, an 800- by 110-foot lock will be part of an artificial barrier separating saltwater and freshwater. The lock, therefore—particularly its function—will be critical, serving as a part of the seawater-freshwater barrier, but required to allow waterway transit as needed.

In fact, the Houma project has not proceeded as planned. It's still in the works, but recent Gulf Coast storms, a slower than expected funding process and COVID-19 all worked against expected pacing. Ingacio Harrouch is chief of operations for Louisiana's Coastal Protection and Restoration Authority. When asked for an update, he said, "We have not started this phase (the lock portion) of the project.

Our plan is to start at the beginning of the second quarter of next year since phase one (dredging of the channel) will take about a year to complete."

De Carlo and Jones foresee a number of benefits from remotely operated locks. These include:

- *Enhanced employee safety and working conditions;*
- *Staffing flexibility;*
- *Consolidated operations—centralized command and control; and,*
- *New high-tech job opportunities.*

Initial project challenges include network security and resiliency as well as for the on-site equipment itself, which needs to operate in all kinds of river and weather conditions.

Working in Canada

Compared to U.S. projects, there's extensive information from Canada. During the past decade, the St. Lawrence Seaway (SLS) Management Corporation added remote operation of lock structures to its existing control centers. The new system has been in place for the past three years and is fully operational across the Canadian Seaway system. Importantly, the locks are part of a larger automation/operation strategy called the Hands Free Mooring System




in which vacuum pad robots have replaced steel mooring cables. Each vacuum pad is capable of 20 tons of holding force to secure a vessel during lockage.

In reality, the robots work together; automated mooring is integrated into the lock automation system. Data from a Traffic Management System is automatically sent to the mooring system as the vessel approaches the lock.

Leonard Swift, manager of automation at St. Lawrence Seaway Management Corp., said that “in general, our operations staff have been very pleased with the changes brought on by our move to remote operation.” Employees prefer being in the Operations Control Center. Importantly, vessel captains transiting the locks liked the changes, particularly the Hands Free Mooring System.

Swift said the Canadian work built on experience from remote operation of lift bridges. He said the remotely operated locks have met and exceeded initial goals. Personnel have become adept and confident using the electronic tools necessary to pass vessels through the Seaway system.

“We are looking forward,” Swift added, “to even more automation as new sensor technologies become available that will further aid the operator and prepare the Seaway for the future—autonomous vessels.”



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Pettibone Extendo 1246X Telehandler

Pettibone introduces the Extendo 1246X telehandler, a workhorse machine built on the manufacturer's next generation X-Series platform that delivers 12,000 pounds of load capacity.

The 1246X is powered by a 117-horsepower Cummins QSF 3.8 Tier 4 Final diesel engine mounted on a side pod. A 30-gallon fuel tank provides ample volume for a full day's work at 100% load.

Featuring an advanced boom design, the 1246X offers a maximum lift height of 46 feet, 6 inches, max forward reach of 30 feet, and max load capacity of 12,000 pounds. Formed boom plates provide the boom structure with greater strength while reducing weight. The design also minimizes boom deflection for better control and accuracy

when placing loads.

Boom overlap is nearly double that of previous models to provide smoother operation and reduce contact forces on wear pads. A bottom-mounted external extend cylinder further reduces the load on wear pads by up to 50%.

Pettibone, part of the Industrial Technologies Group, an affiliate of The Heico Companies, said its hydraulics deliver exceptional controllability and overall operating feel, while enhancing efficiency and cycle speeds. Cylinder cushioning dampens the end of strokes – both extending and retracting – to avoid the wear-and-tear of hard, jarring stops, while also helping prevent the potential spilling of a load. The telehandler also uses a single lift cylinder that improves operator sight lines, and has twin non-tensioned hydraulic lines for tilt and auxiliary plumbing.

Drivetrain and axles have been optimized to provide greater tractive effort with minimal tradeoff on top end speed. A pintle hitch mount adds versatility for towing. Built for use on rough terrain, the unit offers full-time four-wheel-drive with limited-slip front axle differential. Tight steer angle capability provides an efficient turning radius. The Dana VDT12000 Powershift transmission offers three speeds, forward and reverse.

The Extendo operator cab maintains Pettibone's ergonomic seat, pedal, joystick and steering wheel positions, while optimizing line of sight in all directions. A new analog/LCD gauge cluster comes standard. An optional 7-inch digital display with integrated back-up camera is also available. The cab also offers enhanced climate control, flat bolt-in glass, split door design, openable rear window, USB accessory plug, lockable storage under the seat, and water-resistant components for easy interior washdown.

Other features include split-system electrical circuit panels, a 12-volt accessory plug in the engine bay, and heavy-duty bright LED lighting. Additional options include axle-mounted outriggers, solid or foam-filled tires, a sling hook for additional load security and a variety of attachments.



Pettibone

DSC Dredge

Marlin Class Dredge Design

Reserve, La.-based cutter suction dredge manufacturer DSC Dredge has unveiled a new version of its Marlin Class dredge currently under construction and slated to become available in mid-2021.

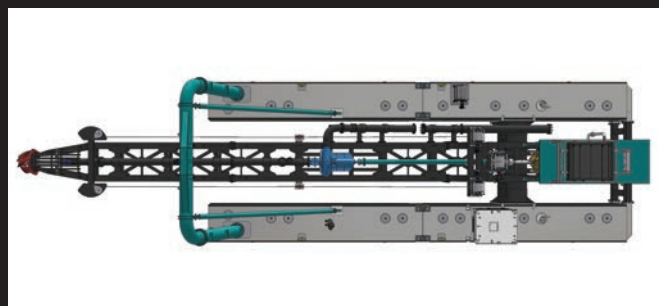
The newly designed 14-inch underwater pump mining dredge is equipped with a 1,125-horsepower EPA Tier 4-compliant diesel engine and offers 65-foot dredging depth capability. Notably, the dredge is completely transportable via both trucks and 14 standard 40-foot shipping containers. When assembled, it is 108 feet long, 31 feet wide and 20 feet tall.

Overall demand in both domestic and international markets is the strongest it's been in a least a decade, a DSC Dredge spokesperson told *Marine News*. Domestic demand has been solid for mining, marine and construction related to infrastructure as well as environmental remediation and restoration, while international demand has been primarily for mining and construction applications.

DSC Dredge said its Marlin Class dredges have been its most popular over the last year. The dredges are designed for deep mining applications and aggregate deposits, and the Marlin's deep digging capability is made possible by the use of an underwater pumping system with a high torque cutter drive assembly. Digging depths range from 35 feet to more than 200 feet, and discharge sizes range from 8 inches to more than 24 inches.

While the Tier 4 engine is new to the latest dredge design, the Marlin Class dredge is still available with lesser tier engines, DSC said.

Each Marlin Class dredge can also incorporate an automation package that provides flow control, slew control, slurry inlet dilution and cutter speed control along with DSC's Dredge RX maintenance management platform. The dredges can also be equipped with DSC Vision, a unique solution providing real-time bottom viewing and historical bathymetry mapping of the dredging site.



DSC Dredge

A Modular TSHD Design Series

A new and innovative trailing suction hopper dredger (TSHD) design series from the Netherlands-based C-Job Naval Architects dials in on modularity and sustainability as pillars for the next generation of vessels set to replace an aging trailing suction hopper dredge fleet.

“In the TSHD market, what we see worldwide is a rather old fleet in need of renewal,” says C-Job CEO, Basjan Faber. “I’m not sure if this market will grow a lot in cubic meters, but for sure there is need for renewal, modern vessels which are more sustainable, working with alternative future fuels.”

“The C-Job TSHD fleet offers the benefits of both a standard design combined with a fully tailored design and the opportunities it presents,” Faber explains. “We’ve noticed a

mismatch where off-the-shelf TSHD designs will not match specific project profiles, while fully tailored dredgers can be seen as limiting itself to the type of project it can perform. Plus, any small adaptations to standard designs usually require a hefty fee. In comes the customizable C-Job TSHD series.”

Each TSHD design in the C-Job series is modular and can be used as is or adapted to even better suit the intended operations. “If you look at the spectrum of the options you have, on one side you have tailor-made designs specific for the needs of a single owner. At the other end of the spectrum, you have the standard designs and the shipyards providing those standards, with limited customization possible. We want to be in the middle of that, the middle of completely custom and standard design,” Faber says.

The result is a platform, a series of hopper dredges,



C-Job Naval Architects

Basjan Faber,
CEO, C-Job Naval Architects

which are highly customizable, available in a variety of cubic meter sizes giving the owner the option to adjust the parameters of the vessel. “The idea is that they can do that [customization] on the spot,” Faber says.

The array of available options is intended to provide a “highly customizable standard series” that is both tailored to need and available much more quickly than a fully standard design. “The range will be roughly from 1,500 cu. m. up to 30,000 cu. m.,” Faber says. “We are ready to launch the first one on short notice and we aim to have the full range ready during 2021.”

The first concept design released from the C-Job TSHD series is a 14,000 cubic meter multifunction dredger optimized for shallow water performance and featuring two extendable suction pipes, self-unloading systems and eco-friendly features.

Modular options on the C-Job TSHD fleet include modifying main parameters, in addition to dredging operations and functionalities such as dredging depth, type of dredge pump, pump power and discharge method. Additionally, the TSHD series allows for easy up- or downscaling of the hopper capacity ensuring any cubic meter size is made possible. “If we start with a hopper dredge which is 14,000 cubic meters, you could give the option to the owner to adjust to the figure as needed, maybe 1,000 cubic meters upward or downward,” Faber says. “Then we will give them the option to adjust other vessel dimensions, for example, the draft, because draft is important for these types of vessels because they operate in shallow water. But [any adjustment] will alter other dimensions of the vessel, which will have an influence on powering the vessel, too.”

C-Job is also keeping an eye on the future, providing option to account future fuels. “So, you can imagine that there’s a ‘toolbox’ where you have the option to select the future fuel for your vessel,” Faber says, noting all dredgers in the series will feature a Green Passport and Clean Design notation.



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C-Job TSHD Series: 14,000 cubic meter multifunction dredger features

- Twin gondola aft ship design
- Available and optimized for shallow water performance
- 14,000-cubic-meter V-shaped hopper
- Two 1,200 millimeter trailing suction pipes, up to 30 meters dredging depth
- Two inboard dredge pump operating in both parallel (trailing) and in series (discharging)
- Option for extended trailing pipe with submerged pump up to 100 meters dredging depth
- Pump ashore self-discharge system through;
- Bow coupling and discharge pipeline
- Rainbow system
- Eight self-emptying bottom doors in one row
- Four closed diffusion boxes for reduced turbulence and maximum control of trim during operation
- Adjustable overflow system with anti-turbidity valve
- Draghead gantries with swell compensation system
- Jetwater system in hopper and on draghead



C-Job Naval Architects

Vessels

Dorothy Day



Eastern Shipbuilding

Eastern Shipbuilding Group, Inc. launched Dorothy Day, the third of three new Staten Island Ollis Class ferries, on Friday, March 26, at its Allanton shipyard in Panama City, Fla.

The three 320-foot Ollis Class double-ended 4,500 passenger ferries are being built for the City of New York Department of Transportation (NYCDOT) Staten Island Ferry Division. Designed by Elliott Bay Design Group, each ferry

features four ABS Electro-Motive Diesel (EMD) 12-710 at 900 rpm EPA Tier 4 marine propulsion engines with two engines powering one ABS Reintjes DUP 3000 P combining gear and one ABS 36 RV6 ECS/285-2 Voith Schneider Propeller at each end of the vessel. Power generation is provided by three ABS, EPA Tier 3 marine continuous duty diesel generator sets, Caterpillar C18 driving 480 V, 60 Hz, 3-phase generators rated at 425 kW at 0.8 P.F. at 1,800 rpm.

Veteran



Crowley

A Crowley ship assist and escort tug serving the Bay of San Francisco is now running on cleaner-burning biofuel, in line with Crowley Shipping's commitment to sustainable operations that decrease the carbon footprint and greenhouse gas impacts of maritime operations. The Veteran, a 6,800-horsepower tug with a bollard pull of 182,000 pounds, received its first bunkering of 24,000 gallons of low carbon biofuel on March 9 in San Francisco, where Crowley has operated tugboats since 1906.

Veteran joins Crowley's Vision/650-10, a U.S.-flagged, articulated tug-barge (ATB) that has continued to be bunkered with biofuel from Shell Trading (US) Company (STUSCO) since December 2019. The ATB serves the U.S. and Canadian West Coast.

The biofuel is lower in carbon intensity than conventional fuel, the use of which results in a reduction of greenhouse gas and air emissions such as carbon dioxide and Sulphur oxide. The biofuel runs the vessels' main engines, generators and barge generators.

George M



Robert Allan Ltd.

Bay-Houston Towing Co. in January took delivery of the final tug in a series of five ordered from Gulf Island Shipyards LLC in 2018. George M and its four sister vessels are Z-Tech 30-80 tugs designed by Robert Allan Ltd. The series' first tug Mark E. Kuebler was delivered in 2019. Robert Allan Ltd. said the Z-Tech 30-80 design incorporates its unique RAsstar series sponsored hull form in the existing Z-Tech design, which enhances the tug's escort capabilities by generating more than 100 mt of steering force at 10 knots.

Cape Henry

Vane Brothers has taken delivery of its new 3,000-horsepower model bow tug Cape Henry from Chesapeake Shipbuilding. Cape Henry is a true sister tug of the Cape Fear, which was delivered to Van Brothers in October 2020. Both model bow tugs are primarily tasked with towing petroleum barges engaged in the Northeast and Mid-Atlantic coastwise trade. Featuring a design by the late Frank Basile, P.E., of Entech Designs, LLC, the Cape Henry measures 94 feet long and 32 feet wide with a hull depth of 13 feet. The vessel is equipped with twin Caterpillar 3512 main engines and operates with a JonRie Series 500 hydraulic towing winch.



Vane Brothers

LNG Bunker Vessel



Seaspan

SeaspanLNG secured approval in principle (AIP) from Bureau Veritas for the design of a 7,600 cubic meter capacity liquefied natural gas (LNG) bunker vessel designed for ship-to-ship LNG transfer as well as well as coastal/short sea shipping operations by Seaspan Ferries' partner Vard Marine Inc. The new line of Vard 9 series LNG bunker vessels is focused on safe, efficient and economical refueling of multiple ship types as well as an ability to transfer to and from a wide range of terminals.

People & Companies



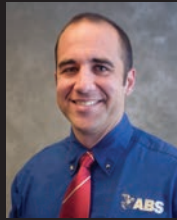
Fagan



Ekse



Nass



Carlucci



Lemcool



Stevenson



Skoglund



Morris



Martin



Belanger



Wilzbacher



Nungesser

Ports of Indiana

Fagan Nominated as USCG Vice Commandant

Vice Adm. Linda L. Fagan has been nominated by the White House to be the next Vice Commandant of the U.S. Coast Guard. She would become the first Coast Guard female four-star admiral and the third woman to serve as Vice Commandant.

Ekse Named EBDG President

Naval architecture and marine engineering firm Elliott Bay Design Group (EBDG) appointed Robert Ekse as president, succeeding current president and chief engineer, Brian King, who is retiring after 33 years of service.

Nass to Lead Port of Gulfport

The Mississippi State Port Authority (MSPA) Board of Commissioners has named Jon Nass the new CEO and executive director of the Port of Gulfport, effective June 1.

ABS Promotes Carlucci

Domenic Carlucci was promoted to vice president, chief technology director at American Bureau of Shipping (ABS).

Lemcool Joins Eastern

Lance C. Lemcool has accepted a position as vice president of commercial sales and marketing at Eastern Shipbuilding Group.

Stevenson to Lead Rockport Terminals

Concurrent with Jones Capital's acquisition of Rockport Terminals, Ross

Stevenson has been named Rockport Terminals president and CEO.

Crowley Promotes Skoglund

Crowley Maritime Corp. has appointed Trish Skoglund to serve in a newly created role, corporate director of mergers and acquisitions.

Morris to Lead Callan's Brown Water Division

Dredging contractor Callan Marine promoted Micah Morris to operations manager of its brown water division.

Bordelon Marine Promotes Two

Offshore support and subsea services provider Bordelon Marine promoted Mike Belanger to chief operating officer and Chris Martin to general manager.

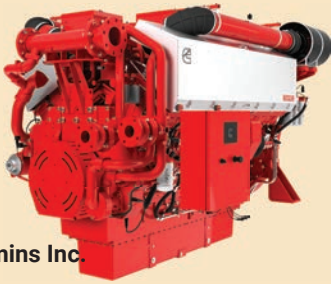
Mount Vernon Port Director Retires

Phil Wilzbacher retired as director of Ports of Indiana-Mount Vernon effective April 20. He held the post for 19 years, making him the longest-serving port director in the statewide port authority's 60-year history. Marine and offshore pump manufacturer Hamworthy Pumps appointed Hans Christiaan Laheij – formerly with Schottel and Wärtsilä – as CEO.

Ingalls Taps Nungesser as VP

Huntington Ingalls Industries' Ingalls Shipbuilding division has promoted George Nungesser to vice president of program management.

Products



1 Cummins Inc.



2 JonRie



3 SCHOTTEL



4 Samson



5 Intelsat



6 MM-SEAS

1. Cummins Tier 4 Engine

Cummins Inc. launched the QSK60 EPA Tier 4 / IMO III. The new EPA Tier 4 compliant selective catalytic reduction (SCR) aftertreatment system is being paired with the QSK60 engine to address the impact of stricter emissions regulations on commercial marine markets in North America. The new system mitigates downtime and improves total cost of ownership, the manufacturer said.

2. JonRie Double Drum Bow Winch

JonRie Marine Winches debuted its new Series 525 Double Drum Bow Winch designed for a 6,770 HP ASD. This winch was designed for escort operations and long line towing over the stern, making it suited for escorting, terminal support, towing and ship assist duties. Among new features on the Series 525 winch are four independent Hagglunds Drives. Also featured are its honey-combed drums and Dual Power Units for independent operation.

3. SCHOTTEL LE-Drive

SCHOTTEL said it aims to meet increasing demand for electronic drive

concepts with its newly launched LE-Drive (“Embedded L-Drive”). As the propulsion systems are compatible with electric motors of all types and manufacturers, the LE-Drive allows a free choice of electric motor for diesel-electric or purely battery-powered vessels. Thanks to its compact design, the integrated LE-Drive allows even more freedom in vessel design compared to conventional Z and L variants, the manufacturer said.

4. Samson Using Bio-sourced Fiber

Samson and DSM are introducing the first-ever bio-sourced ultra-high molecular weight polyethylene fiber and further reducing reliance on fossil fuel-based resources. Ethylene, the primary raw material used to manufacture HPME, is the feedstock that will transition from a conventional to a renewable source via the mass balance approach. All bio-sourced Samson products, including AmSteel-Blue, AmSteel-X, Saturn-12, EverSteel-X and Turbo-RC, will have the same characteristics, performance and product certifications, Samson said.

5. Intelsat FlexMaritime 45cm Antenna Class

Satellite communications services provider Intelsat released a smaller antenna class for its FlexMaritime high-throughput satellite (HTS). The new maritime mobility solution enabled by the 45cm antenna is designed to bring a new level of broadband connectivity performance and affordability for fishing, leisure, tugs and other workboats, as well as smaller or coastal merchant ships, Intelsat said. 45cm terminals from Intellian and KNS are now qualified on the Intelsat FlexMaritime network.

6. MM-SEAS Credentialing Software

U.S. Coast Guard merchant mariner credentialing can be a complex and vague process. From 2012 to 2018, 44.9% of approximately 500,000 applications submitted to the USCG National Maritime Center were incomplete or missing key documents. MM-SEAS is said to be the first software that automates the manual task of obtaining, tracking and renewing USCG credentials, helping to eliminate paperwork processing errors while delivering merchant mariner career guidance.

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NACE Corrosion
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Event Distribution:

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October 2021

MN100

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- Pipes, Pumps and Valves
- Maritime Training
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Event Distribution:

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October 2021 Stamford, CT, USA

November 2021

Great Workboats of 2021

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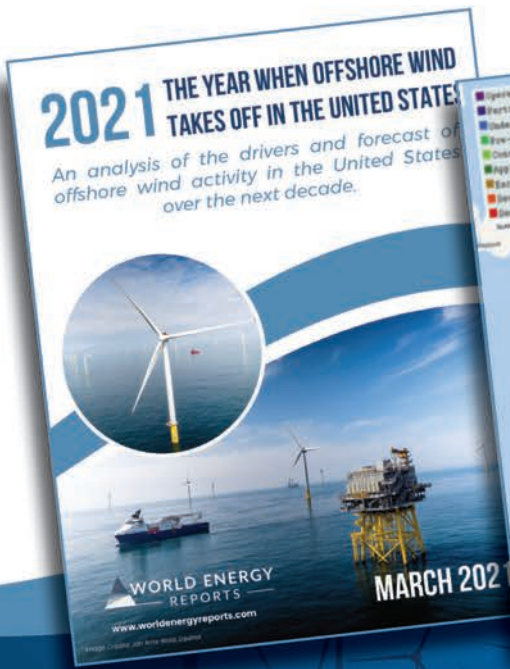
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