

# Finding the Right Shipbuilder for Your Vessel

By Matt Mullett, All American Marine



*Enhydra* is an electric-diesel vessel owned and operated by Red and White Fleet for service on San Francisco Bay. Photo: All American Marine.

**A**s most PVA members know, when a new vessel is required, it usually begins as an idea. After careful deliberation and consultation with staff and financial experts, vessel owners often create a comprehensive list of vessel requirements and reach out to work directly with the builder or in some cases with a naval architect. Once financially qualified, many shipyards will work hand-in-hand with the vessel owners to bring their ideas to life. This is normally accomplished by creating a set of general arrangement drawings that illustrate the layout and appearance of the new vessel. Some organizations such as governments or quasi-government organizations may take a more formal and expensive route, such as a request for proposal or RFP assembled by a marine design firm. (PVA Vessel members are fortunate to have so many reputable, qualified shipbuilders and naval architects to draw from among the PVA Associate membership.) So, after the builders have been contacted or an RFP has been issued how should a vessel operator choose a shipbuilder for their project?

### Expertise and Experience

You have undoubtedly noticed that many shipbuilders tend to build a specific type or style of vessel. Over the years,

many of us have gravitated toward constructing vessels that work well for our core customer base as well as our labor force's training and experience, our machinery, and the relationships we have cultivated with suppliers who can get us the materials we need at fair prices. For example, my firm specializes in building aluminum hydrofoil assisted catamarans. We have found that this design has several advantages. In this case for example, the hydrofoil creates lift which reduces fuel consumption and enhances vessel performance. Over the years, we've worked with our designer to refine the design characteristics to ensure high-speed travel, low wake wash, increased fuel efficiency, and fully customizable depending on the application of the vessel.

Other shipbuilders have similar specialties. For instance, there's a builder in the northeast that constructs a great many pilot boats or others that specialize in the use of composite materials such as fiberglass or even carbon fiber.

As a vessel operator, you should consider what you really need in order for your vessel to perform proficiently for your area, your operating conditions, and requirements. Then, explore who does what you need at the price you can afford on the timeline you desire. Finding a shipyard that delivers high value vessels on time, on budget and one that



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**Top Left:** *Water-Go-Round*, the nation's first hydrogen fuel cell vessel, was delivered to All American Marine in March to complete construction.

**Top Right:** A CNC router cuts aluminum for a vessel under construction.

**Bottom Right:** A trained technician welds seams of a new vessel.

**Bottom Left:** Techs examine parts before installation. Photos: All American Marine.

stands behind their product is critical. This is true not only over the short-term but also the long term operational life of the vessel.

## Questions to Ask

Operator relationships are key. I believe there are several steps that should be taken before entrusting the construction of one of your most important assets to a shipbuilder. I recommend that vessel operators verify and qualify references. Mind you, don't just check the references that the builder provides – find as many previous customers as possible and ask them about the experience. Some questions to pose may address issues such as price, schedule, materials, communication, quality, meeting deadlines, change orders, and the experience of the people building the vessel. What was their experience with the shipyard's post-delivery support, did the shipyard provide assistance after the warranty period expired?

Furthermore, ask about the number of similar vessels

the builder has constructed. And, then find out if they have repeat customers, which is a good indicator of the quality of the vessel as well the relationship between the customer and the shipbuilder.

This is also the time to learn how change orders are managed. It's not uncommon for changes to be needed or desired before or during construction and you'll want to know the process as well as any other considerations, such as timing and costs. What have other vessel operators experienced when making changes?

Finally, how was the bid/RFP process followed through to the vessel that was actually delivered? The answer to this question from other vessel operators serving as references could help you decide which builder is right for your project.

## Design Considerations

The design of your new vessel is crucial. A holistic approach should embrace the end goal of what you need for your operation to succeed. Working closely with a shipyard



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and naval architect from start to finish is necessary to achieve the vessel objectives.

Saying that the passenger vessel industry is unique is an understatement. Every waterway is different (coastal, inland rivers, lakes, etc.). Vessel operations widely vary from ferries to excursion/sightseeing to dinner boats to whale watching to day sailers to small overnight ships. And don't forget private charters for weddings, proms, corporate events and more. Plus, no two service routes are the same. Year-round or seasonal? What makes this industry so interesting also embeds some challenges that need to be thoroughly explored when designing and building a new passenger vessel. This is why an off-the-shelf vessel often doesn't lend itself to stretching and tweaks to complete the specific mission as a custom vessel would.

Passenger vessel operators are experts in running their operations and providing a variety of services that passengers enjoy. Similarly, naval architects/designers and shipbuilders are experts in the design and construction of vessels. From my perspective, I say that only a builder knows what's needed to build the vessel and that goes along with significant interaction with the designer/engineer. When building a vessel, it's vital that all parties respect each other's expertise and experiences.

Details matter. Every detail must be considered from regular operations to preventative maintenance and everything in between. Operators need to be confident that anyone building their vessels is looking at both the big picture as well as the smallest details. For example, was every detail analyzed before the vessel design was completed? If possible, design details should be set in stone as early as possible in the construction process to stay on budget and on schedule.

### Making it Go

A major component in the building of any vessel includes the propulsion system. More and more, we are seeing a shift toward high-efficiency/low emission passenger vessels. Compliance with the U.S. Environmental Protection Agency (EPA) standards as well as significantly reduced reductions in fossil fuels over the life of the vessel are reasons why operators are switching to Tier 3 and 4 engines or transitioning away from conventional propulsion systems. It is important to discuss propulsion with the naval architect and shipbuilder to ensure that the vessel built is designed appropriately for cleaner emitting vessels using materials that will allow the new vessel to perform as expected.

Today, electric-hybrid and hydrogen fuel cell technologies are being incorporated into propulsion systems on vessels in the commercial marine industry, including passenger



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Pictured: Lady Swift - A 78' ultra low wake, high-speed passenger ferry, built for Kitsap Transit



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vessel operations. These exciting innovations come with unique design and build challenges. Battery storage, weight distribution, seating space, passenger capacity, and specialized ventilation and cooling all come into play and must be addressed at the very beginning of the design and building processes.

Because much of this is new territory, you should ask your shipbuilder if the team working on your vessel has had the necessary training to build a boat with these new technologies and systems. It's perfectly acceptable to request a meeting with your designer and shipbuilder. They should be ready, willing and able to include the

“propulsion system integrator” to ease your mind that everyone is on the same page and that all parties have what it is needed to construct your project as expected, especially on a new and unique system.

### Communication Is Important

We live in an age that allows for instant communication. This is both a blessing and a curse. It's good that we can all “talk” to one another to quickly ask and share information in a number of ways, but doing so all the time can slow down the ability to get the job done on time. I suggest that the vessel owner and the shipbuilder come up with a form of communication that works for all parties and establish a time for regular updates. Of course, should something unexpected occur, immediate communication is required.

In closing, no one knows your operation better than you. Providing comprehensive and accurate details about your operational wants and needs to the builder and naval architect at the very beginning of the project is imperative. Effective communication and detailed planning with all involved parties before and throughout the project will help ensure its overall success. Purchasing a new vessel is a significant expenditure and can be a decades-long commitment for many operators, so choose your partners wisely. ■



The advertisement features a large image of the Enhydra ferry, a white and red aluminum monohull with a black hull, sailing on the water. The ferry has "RED AND WHITE FLEET" and "ENHYDRA" written on its side. Above the ferry, there is a circular logo with a stylized boat and stars, and a "WINNER" badge from "BOAT OF THE YEAR 2018 ENHYDRA". The text "ALL AMERICAN MARINE" is positioned above the ferry, and "INNOVATIVE. UNIQUE. PROVEN." is written in large, bold letters across the middle. At the bottom, the website "ALLAMERICANMARINE.com" is listed, along with the text "Red and White Fleet's Enhydra: 128' Aluminum Monohull | 600 Passenger | Hybrid Electric Propulsion".

### About the Author

Matt Mullett is the President and CEO of All American Marine in Bellingham, WA. He has extensive experience in shipbuilding and was named Whatcom County and Business Pulse Magazine's Business Person of the Year 2019. All American Marine has been a PVA member for 18 years.

