Craftsmen

Boatyards show off their latest wares at MACC.
Craft Store

Bigger, faster interceptors extend law enforcement.
Big new long-range interceptor boats held center stage at the 2016 Multi-Agency Craft Conference at the U.S. Coast Guard Yard in Baltimore, as builders try to satisfy the demands of law enforcement for longer legs and crew endurance at sea.

“Interdiction boats, with quad engines and shock absorbing seats, that changes the whole dynamic of these boats,” Jeremy Davis, director of sales for Brunswick Commercial and Government Products (BCGP), said as he showed the Edgewater, Fla., builder’s new 1100 Impact model to MACC visitors in June.

In conference sessions, the industry’s major customers — planners from the Coast Guard and Navy — agreed that technology advances have been impressive.

The Coast Guard’s over the horizon (OTH) cutter boats “have revolutionized the way we do business,” said Rear Adm. Michael Haycock, director of acquisition programs. “I won’t use a cutter without boats.”

At the same time, the Coast Guard and Navy are looking for the industry to help them further standardize and lower costs. For years, end users made the decision on buying boats, but with insufficient product documentation and support. “We were buying boats, but we couldn’t sustain them,” Haycock said.

“We need standardization. We’d like fewer boat classes,” said Rear Adm. Bruce Baffer, the Coast Guard’s assistant commandant for engineering and logistics. “We’ve got to control our appetite for special purpose boats. Anything you guys can do to help us reduce our boat classes, that’s where we want to go.”

The MACC conference, revitalized in the last two years under the sponsorship of the American Society of Naval Engineers, aims to help the armed services and civil law enforcement share their knowledge and experience with all aspects of small craft, from contracting and procurement to tactics, maintenance and new technology.

As Haycock and other Coast Guard officers told the stories, it has been the evolution of small boat operations that enables the Coast Guard and its partners to do what they can to staunch the flood of drugs from South and Central America, especially in the vast eastern Pacific theatre.

Haycock commanded the 378’×43’ cutter Sherman in 2009-2011 in the eastern Pacific, and recalled one patrol when his crew rounded up four boats in the ocean between Costa Rica and the Galapagos Islands. The operation began at 2 a.m., and in the hours that followed the helicopter crew shot out two boats’ engines with a .50 caliber, returning to refuel in between. The OTH boats raced as long as an hour from the cutter to apprehend the crews. When it was over, the Sherman had its whales: four boats in tow and 20 detainees.

“We could have never prosecuted those cases without those boats,” Haycock said. The cutter boats have the deck space, speed and range — and most important, reliability. “We were literally 5,000 miles away from the United States,” Haycock said. “We need boats that are reliable, and we need the whole package.”

The late model OTHs with jet drives that can drive up a cutter’s stern notch have “been a real game changer for the Coast Guard,” Baffer said. Compared to old cutter boats launched by davits or cranes, the OTH boats can launch at cutter speeds of 18 knots and take off on plane, reaching out 100 miles in pursuit, he said.
“You almost buy another cutter by deploying the boats with ships,” Baffer said. “We realized shipbuilders are not good boatbuilders. The boats are our responsibility. We don’t shoot missiles, we shoot boarding teams.”

NEW CONTENDERS
Manufacturers at MACC offered solutions running the gamut from powerful long-range offshore interdiction vessels, to small law enforcement and rescue boats for ultra-shallow bay and marshland patrolling.

At first glance the new 1100 Impact from Brunswick looks like another of the muscular rigid hull inflatable boats (RHIB) that have come to dominate the industry’s patrol sector. But over the gunwale and inside, there is no tube bulging into the crew space, just a solid, flat fiberglass gunwale that the boatbuilder calls the D-Collar after the cross section of hybrid foam.

“When the Coast Guard pulls up to a $600,000 Sea Ray they don’t want to scratch the hull,” said Davis of BCGP. The D-Collar design keeps that soft touch for routine boardings, with more room and maneuverability for the crew on deck, he said. “We’re making a big program in the Middle East for 30 of these. They will be designed for off-shore intercept,” Davis said. Measuring 31’4”×11’6”×21” with a 30” high transom, the 1100 can carry up to 18 people or 5,521 lbs. Engine packages can range from 600 hp to 1,050 hp and four outboards, with a maximum engine weight of 2,400 lbs. and fuel capacity of up to 450 gals.

The company’s demonstration boat was equipped with a trio of Mercury Marine Verado 350 hp outboards, with a cruise speed of 38 knots at 4,000 rpm and a top speed of 65 knots. With a 300-gal. tank, the range is 300 nautical miles. “We can do a four-man or six-man cabin. We can do twin inboard diesels with jet propulsion,” Davis said. With its twin consoles and reconfigurable shock-absorbing seats, the new 35’×10’ multimission interceptor (MMI) from SAFE Boats International, Bremerton, Wash., lined up MACC riders to try its high-speed runs down Curtis Bay. “This is the next in our line of interceptors. We found that our customers are looking for a smaller interceptor, and one that is flexible and can handle a lot of different missions,” said Rob Goley of SAFE Boats.

COAST GUARD MAY REPOWER, REFIT 47’ LIFEBOAT FLEET
The Coast Guard’s workhorse 47’ motor lifeboats are in danger of becoming obsolete with aging engines. The solution will be either to build a new MLB class or embark on a major service life extension, the Coast Guard’s acquisition chief says.

The 47’11”×14’×4’6” motor lifeboat was a leap forward when it replaced the old 44’ design in the 1990s. But the twin 435-hp Detroit Diesel DDEC-III 6V-92TA engines in the class are no longer manufactured. “Unfortunately they’re becoming obsolete in terms of support,” Rear Adm. Mike Haycock, director of acquisition programs, said at the Multi-Agency Craft Conference in Baltimore in June.

Coast Guard planning is in the very early stages, but considering the agency’s limited capital funds, Haycock said he expects a service life extension project (SLEP) will be a likely outcome. “The cost differential is substantial. I don’t think we have room in our capital budget,” he said.

“If you’re in the boat sustainment business, I’d keep an eye on that,” Haycock advised the MACC audience, heavy with representatives from boatbuilders and suppliers.

A SLEP would require not just new engines for the 107 MLBs in service, but new transmissions and other systems “so we can get another 20 years out of these,” Haycock said.

He could not say what the timeline would be for doing a SLEP, but the time is nearing for a decision. “The way things are going, we won’t be able to support them past 2019,” he said. — K. Moore
Based on SAFE’s established family of interceptor vessels, the MMI with a trio of 350-hp Mercury outboards is capable of speeds over 55 knots, high-speed transits in open ocean waters, and “extreme velocity maneuvers,” according to the company. The aluminum vessel with foam collar cruises at 35-plus knots and can carry up to 14 personnel in shock mitigating seats, reconfigurable according to mission needs with an integrated Shoxs Trax system in the aft deck.

“We worked with our friends at Shoxs to make this a totally flexible package,” Goley said, after he and co-worker Scott Clanton finished resetting the seating in preparation for a demonstration ride. “You have 80 square feet of deck back there that can do anything.”

The demo boat unveiled at MACC is the first model. SAFE is marketing the design mainly to its customers including the U.S. and allied coast guards, large coastal metro police departments, and government agencies in the Caribbean and Central and South America.

NEW POWER SOLUTIONS

The demo dock had another visitor, a 25’ response boat-small (RB-S) from Coast Guard Training Center, Yorktown, Va. It’s the testing platform for a study of diesel outboards by the Coast Guard Research and Development center at New London, Conn., and Mercury Marine.

The pair of 3.0-liter Mercury diesels on its transom were part of an eight-week field study, with performance instrumentation installed on the boat to monitor power, speed, and fuel consumption, said Lt. Keely Higbie of the R&D center.

According to a cooperative research and development agreement with Mercury Marine, the project will “evaluate and test the advantages, disadvantages, required technology enhancements, performance, costs, and other issues associated with diesel outboard engine technology.”

A recent cost-benefit study found the Coast Guard would not save money by fully converting its outboard-powered...
small boat fleet to diesel fuel in the short term. But as a long-term acquisition move, moving the small boat fleet to single-fuel diesels may be worth considering, the analysis found.

The revived MACC show attracted Yanmar Marine, who showed off its new generation of inboard diesels with common-rail fuel injection, including the 6LY400/440CR compact 5.8-litre inline six-cylinder model, rated at 400 hp and 440 hp. The Tier 3 engine delivers extremely finely atomized fuel to the cylinders.

The newly marketed 8LV model was there too. With ratings of 320, 350 and 370 hp at 3,800 rpm, the 4.6 liter V8 was paired with Yanmar’s ZT 320/370 Sterndrive, engineered to handle the 8LV’s 800 ft.-lbs. of torque.

“These are ideal for light commercial, military as well as recreational craft applications,” Philip Secord, North American sales manager for Yanmar Recreational Marine of Americas, said in announcing the company’s return to MACC.

Amid all the big diesel power, John Haynes of Shock Mitigation Ltd., Dorset, U.K., talked about future military marine applications of hybrid energy sources. This included dual propulsion vessels where electric drives, energy storage and solar will supplement and extend the endurance of engine power.

“That doesn’t work in the go-fast community here … but it’s coming,” said Haynes, who works with the offshore wind energy industry in the U.K. and Europe.

Haynes described 6’x3’x2’ plug-and-play battery packages that can provide power for the 24-meter crew service vessels (CSVs) used in offshore wind energy arrays. A typical CSV workday involves a one-hour transit from shore, carrying four technician teams to service the turbines, then idling while the work gets done.

It’s that “tick over” time when batteries and electric drive can be used to reduce engine cycles, Haynes said. That translates into fuel and maintenance savings. “As a mariner, on a dark and stormy night, I want my throbbing diesels,” he said. “But I want to bring stored energy on board.”

That’s where hybrid power has military applications, in endurance and loitering time on station, and low-signature stealth, compared to “just sitting there, running your diesels, smoking everyone out, just to maintain your coms (communications),” he said.