Delivering the Goods
News from the U.S. Coast Guard Acquisition Directorate
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Turning Inward: Addressing the Coast Guard's Inland Fleet

By Michael Valliant

WASHINGTON—Oil spills in the Gulf of Mexico, international drug busts and migrant interdictions seem to steal the Coast Guard's headlines. But turn your eyes inland for a moment and you quickly realize the importance of Coast Guard missions on America's navigable rivers and the work that is underway to address the viability of the service's inland fleet.

The inland river tenders (WLRs), inland construction tenders (WLICs) and inland buoy tenders (WLIs) that comprise the Coast Guard's inland fleet carry out the service's aids to navigation (ATON) mission as one of their primary purposes. The tenders ensure that the Coast Guard can provide visual and electronic navigational aids, navigation information and vessel traffic management services for U.S. navigable waterways. The vessels work to ensure that bridges and causeways allow for the safe passage of waterborne commerce and other maritime traffic.

There are 35 vessels in these three classes of Coast Guard tenders. Despite the importance of their missions to maritime safety and commerce, the average age of the WLRs is 43 years old, the average age of the WLICs is 45 years old and the average age of the WLIs is 56 years old. With the decommissioning of USCGC Achushnet, USCGC Smilax—a 100-foot WLIC that was commissioned in 1944—is now the Queen of the Coast Guard fleet, a distinction given to the oldest commissioned cutter in service.

The Coast Guard's Rear Adm. Ronald Rábago and the U.S. Army Corps of Engineers Marine Design Center's William F. Gretzmacher III sign an individual support agreement between the two services, which are working together to evaluate design alternatives to replace the Coast Guard's inland buoy tender and construction barge fleet. *Photo by Steve Rochette with the Marine Design Center*

The inland fleet's age and the fact that it is a non-standardized fleet—there are nine unique sub-classes within the classes—raise some operational concerns. Operators often encounter obsolete equipment; inadequate gray-water handling systems, lead and asbestos coating systems, substandard crew accommodations and minimal availability for mixed-gender crew.

Analysis has shown that, left alone, the operational and maintenance costs of the fleet will likely grow as much as 19 percent each year. The tenders will also have an increased need for unplanned maintenance and loss of resource hours due to system obsolescence.

"We have an inland fleet that we definitely need to recapitalize," said Rear Adm. Ronald Rábago, the Coast Guard's Assistant Commandant for Acquisition. "It just gets increasingly difficult to take care of old boats."

As a band-aid approach for the inland fleet, the Coast Guard implemented the Inland Rivertender Emergency Subsystem Sustainment (IRESS) program. The systems renewed through IRESS include the

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propulsion and steering systems, the generators on the WLICs and some ancillary equipment. The program did not address the outdated auxiliary systems, sub-par habitability spaces and pervasive hazardous materials, such as lead paint and asbestos.

"The idea is to mitigate the worst of the cutter systems to buy back some semblance of reliability," said Lt. Cmdr. Arthur "Jay" Shuman, assistant project manager for the WLIC/WLR recapitalization project. "IRESS was only intended to be a bridging strategy to facilitate mission effectiveness until such time as an acquisition program could provide replacement cutters."

To that end, the Coast Guard Acquisition Directorate has been tasked with looking into what it would take to recapitalize the inland fleet. In 2009, Congress appropriated $5 million to begin survey and design work leading up to a replacement of the inland fleet.

Marine Design Center

There is another military organization with a vested interest in the state of the country's navigable rivers, bridges and navigational aids: the U.S. Army Corps of Engineers (USACE). The USACE maintains a fleet of 2,500 operational vessels, from hopper dredges and floating cranes to survey boats.

The Army Corps' Marine Design Center (MDC), located in Philadelphia, is charged with keeping the fleet operating effectively and efficiently. The MDC gives the Corps a centralized, shared resource for advice on topics ranging from repairing old vessels to designing and purchasing new ones.

The MDC boasts a team of 30 people that includes naval architects, marine engineers and project managers. The team provides total project management, from planning and engineering to shipbuilding contract management. In short, the MDC has been doing the type of work the Coast Guard needs to undertake for its inland fleet, with expertise in the field that dates back to its founding in 1908.

A Win-Win Agreement

Following an April 2010 meeting between Coast Guard Commandant Adm. Robert Papp and USACE Commanding General Lt. Gen. Robert L. Van Antwerp, the two services started collaborating to explore the feasibility of a common inland tenders multi-purpose design.

"We are exploring a common platform that can be tailored to each mission set, buoy tending or construction," Shuman said. "The MDC clearly knows what they are talking about. They are an independent organization and they carry great credibility."

On March 2, Rábago and MDC Director William F. Gretzmacher III signed an Individual Support Agreement outlining the partnership for the Coast Guard's inland fleet evaluation.

The agreement's purpose is "to acquire the expertise of the USACE MDC to provide technical support and design expertise for the evaluation of alternative concepts to replace the existing Coast Guard inland fleet." The Coast Guard will provide its requirements and guidance to ensure they are met.

The Coast Guard will select a standard vessel or vessels for buoy tending and construction from the MDC-provided alternative designs, cost estimates and other technical evaluation data.

Before selecting a standardized group of vessels, there are a number of decision points the Coast Guard must address. For example, will the vessel configuration be a towboat and barge or a single hull tender concept? Will the propulsion arrangement include a modern Z-drive or a conventional propeller and shaft? Will the power be a direct-drive diesel engine or will the Coast Guard move to a greener diesel-electric hybrid?

The Coast Guard Cutter Sledge is a 75-foot inland construction tender (WLIC) homeported in Baltimore. The average age of the WLIC class of tenders is 45 years old. The Coast Guard is looking into design alternatives to recapitalize these venerable work boats. *U.S. Coast Guard photo by Petty Officer 3rd Class Robert Brazzell*

These are the types of decisions that will be made over the 60-week process the agreement outlines. Funding for the evaluation comes from monies appropriated by Congress in 2009. The Coast Guard and MDC have a follow-up meeting scheduled for April, which will officially begin the design process.

The Coast Guard is excited to tap into the MDC's experience and is enthusiastic about both the partnership and the work being undertaken.

"The MDC has expertise working with this type of vessel," Rábago said. "We are appreciative of their thoughts to date, excited about what will come of this partnership and looking forward to learning more about each other." ■

Interagency Operations Centers Begin WatchKeeper Technology Demonstrations at Selected Ports

By Linda M. Johnson

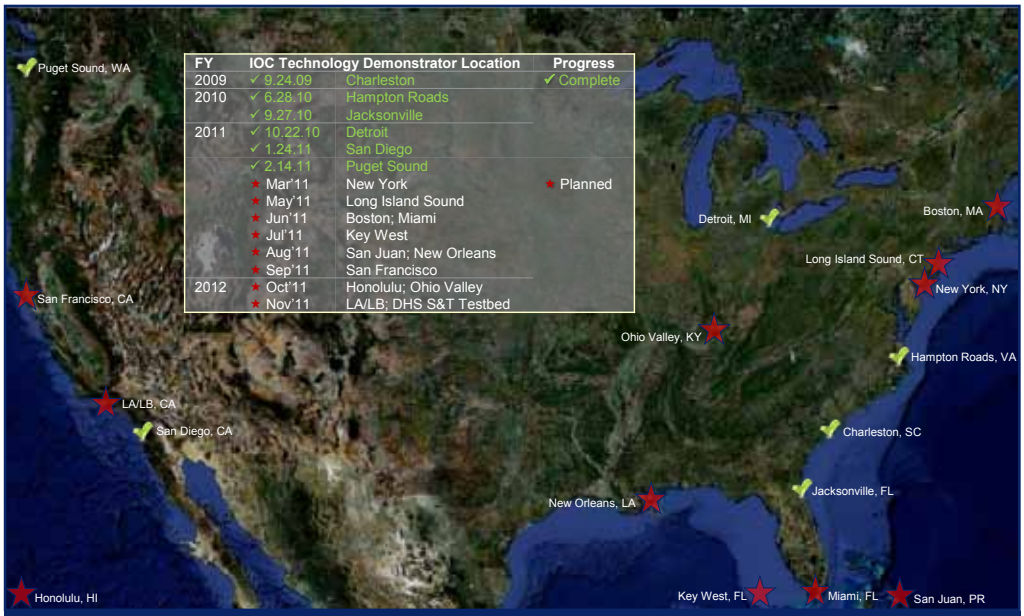
The U.S. Coast Guard Acquisition Directorate has begun technology demonstrations of its WatchKeeper software at selected ports around the country as part of its Interagency Operations Center, or IOC project. WatchKeeper is an information management system that coordinates and organizes port security information to help the Coast Guard and its port partners make the best use of their resources to keep America's ports safe.

Coast Guard Sector Command Centers will be transformed into IOCs by upgrading their information management tools, integrating existing sensor capabilities and, in some locations, providing shared facility capacity. These improvements will benefit the Coast Guard's port partners, which include other agencies within the Department of Homeland Security (DHS); the Department of Defense; other federal, state and local law enforcement agencies; and port authorities.

The IOC concept promotes information sharing as a way to improve tactical decision-making, situational awareness, integrated vessel tracking, interagency operations monitoring and joint planning efforts.

The technology demonstrations allow the Coast Guard to "take user feedback and build it into future releases of WatchKeeper," Capt. Alan Arsenault, the IOC project manager, explained. "It also allows us to get it out in the field about two-and-a-half years earlier than if we had to wait for a full deployment decision."

The WatchKeeper software has been tested at six Coast Guard sectors so far: Charleston, S.C., site of the initial operational testing;



FY	IOC Technology Demonstrator Location		Progress
2009	✓ 9.24.09	Charleston	✓ Complete
2010	✓ 6.28.10	Hampton Roads	
	✓ 9.27.10	Jacksonville	
2011	✓ 10.22.10	Detroit	
	✓ 1.24.11	San Diego	
	✓ 2.14.11	Puget Sound	
	★ Mar'11	New York	★ Planned
	★ May'11	Long Island Sound	
	★ Jun'11	Boston; Miami	
	★ Jul'11	Key West	
	★ Aug'11	San Juan; New Orleans	
	★ Sep'11	San Francisco	
2012	★ Oct'11	Honolulu; Ohio Valley	
	★ Nov'11	LA/LB; DHS S&T Testbed	

WatchKeeper software is being rolled out at technology demonstrator sites around the country at the rate of approximately one per month as part of the Coast Guard's Interagency Operations Center project.

Hampton Roads, Va.; Jacksonville, Fla.; Detroit; San Diego; and Puget Sound, Wash. Sector New York, which is inviting many port partners like the New York Police Department to participate in the rollout, will begin its technology demonstration later this month.

"We're rolling them out about one a month and we're doing a total of 17 sites" by the end of this calendar year, Arsenault noted. "At the same time, we're assessing how well we're doing with WatchKeeper. We're taking user feedback, we're looking at help desk statistics and availability statistics to see how well the system is operating. The bottom line is getting this out there has really sparked interest."

About 140 port partners have access to the WatchKeeper system now and that number is expected to grow as more ports participate in the technology demonstration. "Right now, just as a starting point, we can have up to 1,000 users per port," he said. "The system was tested well beyond that, but that's what we've been shooting for. That's quite a few users—it's 1,000 times 35 ports, so that's a large number of users for the system."

Arsenault demonstrated the technology at the Coast Guard sector commander's conference last month. "People are really starting to talk about it out in the field. Our port partners are using the system," he said. "It still doesn't have all the functionality but we're continuing to build that out with our Segment 2 work, which includes sensor integration into WatchKeeper. Sensors are primarily camera and radar feeds."

Acquisition Strategy

IOC's WatchKeeper was the first time a project was approved for technology demonstration by

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DHS. The agency uses it as an example of when a technology demonstration is appropriate.

"That is a big deal—it was a huge, collaborative win," Arsenault explained. "For software, it's a great way to do business. Because if you wait for software to be perfect before the field sees any of it, you might be missing the boat on bringing in some really valuable input. The longer you wait, the more valuable user feedback you'll miss. This is a perfect example of getting something out early rather than waiting for it to be perfect."

WatchKeeper is owned by the Coast Guard and "because it was developed in-house, it is already a part of the command center product line, so there is no transition to sustainment," he said. "It's already done and happening in lock-step with the acquisition. That's a big deal and it's working really well."

The centers satisfy the mandates of the Security and Accountability for Every Port (SAFE Port) Act of 2006 by enhancing the unity of effort in protecting America's largest maritime ports.

However, "WatchKeeper is only one part of the solution," Arsenault noted. "We're finally at the point where we are starting to fulfill some of the requirements of the 2006 SAFE Port Act and I think when we start integrating sensors into WatchKeeper, we're going to get even more interest in the technology solution that really backs up this whole IOC concept."

For more information on IOCs, please visit www.uscg.mil/acquisition/ioc. ■

ASK MASTER CHIEF AYER

Q. Can you tell us more about the weapons system that will be installed on the new Sentinel-class patrol boats?

A. The Sentinel-class vessels will have a single MK-38 Mod 2, gyro-stabilized 25-millimeter (mm) machine gun, as well as four .50-caliber mounts. They will also carry an outfit of standard small arms.

The most significant increase in capability comes from the MK-38 Mod 2. The MK-38 Mod 2s use essentially the same gun as the MK-38 mod 1 (M242 25 mm) that we have on our 110-foot patrol boats and 210-foot medium endurance cutters. However, it is installed in a gyro-stabilized mount that is controlled by a remote control system that employs both visible and infrared cameras. This system will enable the vessel to engage targets with greater accuracy at greater speed and in significantly greater sea conditions than our current MK-38 25-mm machine gun. Since the system is remotely operated, it increases the safety of the weapons operator by enabling them to control the system from within the skin of the vessel.

This new mount, combined with the increased sea keeping and stability inherent in the vessel's design, will provide a major increase in our ability to deliver accurate fire in all conditions, both day and night.

The gun and mount are what we call Navy-type and Navy-owned, meaning that the U.S. Navy is providing us with a proven weapon and mount. The advantage to the Coast Guard is that they come with a fully established support and maintenance system. Since it uses the same gun as the current MK-38, our existing training programs and skill sets will not have to be reinvented from the ground up to support these vessels.

The Mk-38 Mod 2 is a weapons system that is in current use on U.S. Naval vessels as well as numerous vessels from around the world. It is a proven, effective and supportable system, which is always a consideration with our current and future acquisition programs.

— MCPO Brett F. Ayer, Command Master Chief, Coast Guard Acquisition Directorate

[To submit a question for an upcoming Acquisition Directorate newsletter, please e-mail Master Chief Brett F. Ayer directly at: Brett.F.Ayer@uscg.mil or acquisitionwebsite@uscg.mil.]