



# Delivering the Goods

News from the U.S. Coast Guard Acquisition Directorate

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## Coast Guard H-60 Conversion Project Looks to Commonality, Support Infrastructure in Acquisition Success Story

By Hunter C. Keeter

**W**ASHINGTON—The Coast Guard’s H-60 Conversion Project—which will modernize the fleet of 42 Jayhawk helicopters—is making use of technology held in common with other aircraft and a robust support infrastructure to deliver on one of the highlights of the service’s aviation product line.

Under the effort, the Coast Guard’s Jayhawks receive new electronic equipment, many elements of which are similar to the equipment procured for the H-65 Dolphin Conversion and Sustainment Project. When the upgrades are complete, the Coast Guard’s H-60Js will be re-designated MH-60T, just as the service’s H-65s are re-designated MH-65C after conversion.

“The Electro-optical/infrared (EO/IR) Sensor System, which is manufactured by FLIR Systems Inc., will be 100 percent common between the two platforms,” Stephen A. Kellogg, manager of the H-60 Conversion Project, said during a June 2 interview. “EO/IR developmental testing was completed on an H-65 and now we are integrating the EO/IR on the MH-60T. Other services have also expressed interest in this highly capable compact EO/IR.”

The MH-60T product line has the lead for developmental testing of the new radar—for which the solicitation now is being developed. This summer, the Coast Guard plans to request proposals from industry for up to 150 new radar sets capable of operating on both types of helicopters. Kellogg noted that the radar may be “plus-



MH-60T No. 6027 conducts a hoist recovery during a training mission following the aircraft’s upgrade. The H-60 Conversion Project will upgrade 42 Jayhawks with state-of-the-market avionics, a new wiring harness and advanced mission systems at the Coast Guard Aviation Repair and Supply Center, Elizabeth City, N.C. USCG photo

or-minus 80 percent” common to each aircraft.

The project also provides new mission capability to the Coast Guard’s helicopters—including weapons mounts and armor to meet Airborne Use of Force (AUF) requirements. All operational Coast Guard H-60s have received the AUF conversion; the remaining aircraft are in the program depot maintenance line and will receive the conversion as each is overhauled. Similar upgrades are

being performed under the H-65 project.

Other improvements include a new Rockwell-Collins avionics suite based

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## Coast Guard's Foreign Military Sales Program Markets Fast, Capable Small Boats and other Products

By Hunter C. Keeter

As the U.S. Coast Guard builds its presence in what Assistant Commandant for Acquisition, Rear Adm. Gary T. Blore has called a "niche market" for Foreign Military Sales (FMS), the service's burgeoning fleet of small boats has earned considerable attention.

According to FMS program manager Tod F. Reinert, foreign sales benefit the Coast Guard by improving maritime security abroad, strengthening relationships with friendly nations and contributing economies of scale to current domestic procurements.

"If we can sell the product while the Coast Guard is taking delivery, there is no break in the production run ... Keeping the same people employed [at a vendor] year-round and not having a lot of staff turnover benefits us in terms of the quality of the product that is delivered, both for the Coast Guard and our international customers," Reinert said. "Another benefit is reduced acquisition cost in non-fixed price contracts, as we sell internationally a number of units at the same time the United States is buying them."

During a recent, three-day FMS advocacy event at the Acquisition Directorate's offices, 37 foreign representatives attended product briefings on how the Coast Guard's boats meet maritime homeland security requirements—especially the ports, waterways and coastal security mission set. Later, foreign representatives had the opportunity to get underway aboard the boats from the James Creek Marina, on the Anacostia River.

On display were several examples from the Coast Guard's boat force, including SAFE Boat International's Response Boat-Small (RB-S);



ADEN, Yemen—One of eight 44 ft. Motor Life Boats (MLB) transferred to the Yemen Coast Guard Authority gets underway. The Middle Eastern nation and the United States have similar maritime security and counter-terrorism requirements, and conduct complementary operations in the Gulf of Aden and the Bab el Mandeb Strait. USCG Photo by PA1 Matthew Belson

Zodiac's Mk2 and Mk3 Cutter Boat-Over-the-Horizon; Metal Shark's Trailable Aids to Navigation Boat (TANB), and the new Special Purpose Craft-Shallow Water (SPC-SW).

During the last decade, the Coast Guard's FMS program has sold 213 boats to 36 allied nations—with the most significant efforts in Chile, Colombia, Iraq, Malta, Nigeria, Sri Lanka and Yemen—while continuing to attract new customers from elsewhere in Africa, South America and Asia.

The variety of boats in the Coast Guard's catalogue is one of the FMS program's strengths. There seldom is a one-size-fits-all solution to meet all small craft requirements, so the Coast Guard's boats represent solutions to a variety of mission needs. All of the platforms share the

basic characteristics of speed and maneuverability—core capabilities for interdiction, search and rescue missions.

The Coast Guard's boats also share a modular electronics package, which is scalable according to platform size, operational needs and logistics requirements. The equipment includes a surface search radar, full-color chart plotter and digital Global Positioning System displays, HF/VHF marine radios and Emergency Position Indicating Radio Beacon (EPIRB) receiver.

Exemplary of new platforms that soon will be available through the FMS program is Marinette/Kvichak's 45 ft. Response Boat-Medium (RB-M). The RB-M is a twin-engine, water jet-propelled craft capable of more

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## Product Spotlight: Response Boat-Small

Coast Guard Station Washington, D.C., located at Bolling Air Force Base on the Potomac River, is equipped with four Defender-class Response Boat-Small (RB-S). The RB-S is a 25 ft. aluminum boat with a beam of 8.5 ft., powered to more than 45 knots—zero to plane in less than four seconds—by two 225hp four-stroke Honda engines.

High speed and maneuverability are hallmarks of the RB-S design.

“One of the most important attributes of this boat is its quick response capability,” Boatswain’s Mate 3rd Class James D. Kalber said during a May 29 interview while underway aboard an RB-S. “At better than 45 knots, we can keep up with anyone who wants to try and outmaneuver us out here. At full speed, we can turn 180 degrees within one boat length.”



WASHINGTON—A Defender-class Response Boat-Small patrols a D.C. waterway with the Washington Monument in the background. RB-S is one of the Coast Guard’s family of small craft designed to meet the requirements of a variety of missions, including search & rescue; and port, waterway and coastal security. USCG photo by John Edwards

Built by SAFE Boat International, the RB-S’s capabilities help meet the Coast Guard’s demanding requirements for port, waterway and coastal security missions. Station Washington’s craft also conduct search & rescue, law enforcement and other operations throughout the D.C. metro area.

Boat crews from the station patrol the Anacostia River as far as the John Phillip Sousa Bridge; the Washington Channel to Interstate Highway 395; the Potomac and its tributaries—north to the Francis Scott Key Bridge and south to Quantico, Va., 27 miles downriver.

Seaman Alec Thomas noted that the RB-S is relatively easy to support with the unit’s own boat maintenance facility. Logisticians also have access to the expertise of nearby Sector Baltimore, and the Coast Guard Yard at Curtis Bay, Md., for major overhauls.

Although the use of deadly force is a last resort, RB-S can be armed with one M-240B 7.62mm light machine gun and a variety of small arms for the crew. For

example, law enforcement boarding officers carry a personal defense weapon—the SIG Sauer P229R DAK .40 caliber pistol—as well as the Remington Model 870 12-gauge police magnum shotgun, which can fire slug, buckshot and less-than-lethal rounds.

Station Washington boat crews conduct

regular firearms training in U.S. Army facilities at Ft. Meade, Md., or the U.S. Air Force’s range at Bolling AFB. Whether training or on missions, interoperability with Department of Defense and other law enforcement and first-responder units in the D.C.-area is an important part of duty at Station Washington, according to Machinery Technician 2nd Class Matthew P. Husler.

Husler noted that Station Washington crews regularly work with federal, state and local agencies—including District of Columbia and City of Alexandria fire and police, and others.

## Presenting a United Front to Terrorism—an Exclusive Interview with Cmdr. Ken D. Marien, Project Manager, Interagency Operations Center (IOC)

By Hunter C. Keeter

The IOC Project is one of the Coast Guard's newest major acquisitions, one which will merge diverse data sources and automate the processes of detecting, identifying and responding to threats at the United States' major port facilities. The project seeks to improve the Coast Guard's interoperability with other federal agencies—including Department of Homeland Security (DHS) Customs and Border Protection; Immigration and Customs Enforcement; and Transportation Security Administration—the Departments of Justice and Defense, as well as with state, local and private sector entities. This month, Delivering the Goods interviews Cmdr. Marien on the Coast Guard's mandate from Congress to secure the nation's ports.

*DTG: How did the IOC Project come into being?*

Marien: Originally it was known as Command 210 and was later renamed Command 21 prior to becoming the IOC Project. While IOC has evolved over several years, the areas targeted for improvement remained the same—shortfalls in port and coastal surveillance, vessel tracking and information sharing with our port partners. The passage of the Security and Accountability for Every (SAFE) Port Act of 2006, is what kick-started the IOC Project by requiring that the Department of Homeland Security establish IOCs at the United States' highest priority port facilities.

*DTG: What capabilities will the project provide?*

Marien: The IOC Project will allow the Coast Guard to better detect and track vessels and other threats in ports and along coasts, especially

near critical infrastructure or other high threat, high risk areas. It will also improve the Sector Command Center (SCC) watchstander's ability to make sense of and disseminate the vast amount of information that is available through existing enterprise IT systems and other databases. The SCC watchstander currently serves as the integrator for all this information. Our goal is to improve situational awareness by automating the data fusion, dissemination and anomaly detection processes.

*DTG: How will the Coast Guard and the nation benefit?*

Marien: First, IOC will save resources—time and money—by providing a way to optimize and coordinate the use of limited Coast Guard and other agency assets. Second, it will provide the facilities and tools for a robust, single point of coordination of maritime operations for federal as well as local entities. Presenting a united front against terrorism is what IOC is all about and one of the key performance objectives we need to deliver.

*DTG: What materiel will you acquire and deliver to the Sector Command Centers?*



SEATTLE—An aerial view of the port showing Coast Guard Integrated Support Command in the lower half of the picture. The Interagency Operations Center project will improve national security by facilitating joint operations by federal, state and local law enforcement, first responders and the military. USCG photo by Petty Officer 3rd Class Tara Molle

Marien: The beauty of this program is that the Information Technology (IT) systems we need to leverage already exist in the enterprise. We will focus on integrating these disparate systems—from the Coast Guard and other agencies—into a single, graphical user interface. This integration work will be challenging in itself but we are certainly not starting from scratch. We also intend to provide expanded facilities to allow for interagency presence in our SCCs and a sensor infrastructure—including radars and cameras. While all the pieces for a particular SCC (software, expanded facilities and sensors) will come together in the end, each can be deployed independently. It's nice to have this flexibility.

*DTG: What modifications to Coast Guard facilities will be necessary?*

Marien: Every port facility and SCC is different, so there aren't any one-



size-fits-all solutions. For example, in Seattle, the ferry system is very active. So, we need to work closely with the local transportation authority to accommodate their needs. Threats, port partners and mission emphasis vary location by location. In some cases we will find that the existing SCC is acceptable for the end-state and the only thing we may need to do is install the software piece. In other cases we may need to construct a new building.

*DTG: Are there similar projects from other agencies that you can leverage as you develop the IOCs?*

Marien: Yes. The Secure Borders Initiative (SBI) Network is the land-based complement of IOCs. We have engaged with the DHS program staff to begin talking about potential synergies between the two projects. Additionally, the Coast Guard is currently the lead agency for Project SeaHawk in Charleston, S.C. This is a very successful joint operations center funded via the Department of Justice. Some 22 federal, state and local entities participate on a daily basis with an emphasis on joint targeting and law enforcement. While we don't intend to replicate the SeaHawk model at every Sector, a lot of what we have learned will go into the development of IOC.

*DTG: What challenges do you face?*

Marien: Like all acquisition projects, cost and schedule are inherent challenges. From a technical perspective, one of the two challenges we are going to face is to understand the needs of our core port partners and account for those needs in our design solutions. The second challenge will be the work needed to integrate the various IT systems into a single user interface.

*DTG: How will you measure success?*

Marien: Since IOC is all about interagency collaboration, we will



NEW YORK—A 25 ft. Coast Guard Response Boat-Small patrols the New York Harbor with a New York City Police Department Harbor Unit. Patrols like this, part of Operation Liberty Shield, demonstrate the interagency cooperation that has developed between the Department of Homeland Security and other federal, state and local agencies. USCG photo by PA3 Mike Hvozda

focus on ways to measure this interaction. For example, we will look at what percentage of our missions—including the planning, law enforcement operations, intelligence sharing, etc.—are being done in an interagency context. Today, the percentage may be fairly low; we want to improve. Also, it is very important that we align this project with the strategic goals and objectives of the Department of Homeland Security: maritime safety, awareness, prevention and response.

*DTG: How does the IOC project reflect the Coast Guard's emergent capability as a lead systems integrator?*

Marien: The Coast Guard is the lead systems integrator for the IOC project and we are managing it in a joint fashion. While the Acquisition Directorate (CG-9) is responsible for project execution, the Assistant Commandant for Capability (CG-7), the Assistant Commandant for Command Control, Communications and Information Technology (CG-6),

and the Assistant Commandant for Engineering and Logistics (CG-4) are all providing key leadership to the IOC working groups or product teams. Additionally, the Command and Control Engineering Center (C2CEN) is leading the software development work. This arrangement is proving to be very successful—the cooperation has been fantastic.

*DTG: What are your near-term and long term goals?*

Marien: Near-term, the project team will focus on deploying an initial increment of capability which we are calling Segment 1. This first increment will not only set a national standard for SCC operations but will provide a foundation for incremental and adaptive growth to meet ever changing port security requirements. It is imperative that this first segment be deployed as soon as possible—nationally by the end of 2010—so we get the support we need for continued funding. ■

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than 42 knots and 250 nautical miles range. The new vessels will join the Coast Guard's shore-based boat force to replace the service's 41 ft. and non-standard utility boats.

FMS sales of RB-M may benefit the project's unit cost and schedule, should buyers add quantity to the production lines at Seattle and Marinette, Wis. The RB-M project's acquisition strategy calls for at least 180—and possibly as many as 250 boats—to be procured under a multi-year contract, which was awarded in June 2006. The first RB-M is undergoing Operational Test & Evaluation (OT&E) at Coast Guard Station Little Creek, Va.

### Inside Coast Guard FMS

Last month's boat demonstration marked a milestone in the evolution of the Coast Guard's relatively young FMS program, which began in earnest just seven years ago, and has built on previous experience (dating to the late 1990s) with Excess Defense Article (EDA) transactions.

"We are never going to have a multi-billion dollar FMS/EDA program like the U.S. Air Force or the U.S. Navy," said Reinert. "But I think, from the standpoint of the capability we are providing, the significance of what we are doing far outweighs the dollar value of the assets."

FMS and EDA transfers are part of the engagement strategy of the Coast Guard's Office of International Affairs. Blore and Reinert believe that reaching out internationally is a natural fit for Coast Guard acquisition, as many of the world's naval forces share similar force structure and missions with the U.S. Coast Guard.

"Many foreign naval forces [including navies, coast guards and other maritime law enforcement agencies] tend to be focused—like us—on maritime security, search and rescue, environmental protection and national defense missions," Reinert said. "Now that we are buying the assets that provide more capability

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The HC-144A Ocean Sentry is the latest plane to join the Coast Guard's aviation fleet. The medium-range surveillance aircraft will conduct search and rescue, law enforcement, marine environmental protection, military readiness and International Ice Patrol missions. The Coast Guard hopes to offer the Ocean Sentry for Foreign Military Sales (FMS). Photo by Integrated Coast Systems

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on the Department of Defense's (DoD) Common Avionics Architecture System (CAAS) Program. CAAS includes five Multi-Function Displays (MFDs)—showing flight instrument data, weather radar information, forward-looking infrared and camera imagery—Wulfsberg multi-band radios, and an integrated Traffic Collision Avoidance System (TCAS).

New communications systems will provide MH-60T aircrews with improved capability to talk to local police and emergency responders. In addition, Kellogg noted that the Jayhawks' situational awareness will be "dramatically improved" as flight planning data is integrated with weather radar data in the new cockpit displays.

The lion's share of the H-60 Conversion Project is taken by the avionics upgrade, although the effort also includes a Service Life Extension Program (SLEP) that replaces the remaining 80 percent of the aircraft's electrical wiring. Combined with the avionics project, the conversion projects will result in a completely refreshed airframe wiring harness.

The Coast Guard began major work on the prototype MH-60T (CG6027) CAAS conversion in March 2006, and completed the effort in December 2007, at Aircraft Repair and Supply Center (AR&SC) Elizabeth City, N.C. The project completed developmental testing in March 2008. Now, the converted aircraft has begun Operational Test and Evaluation (OT&E) at Aviation Training Center (ATC) Mobile, Ala., with the Coast Guard and the U. S. Navy's Commander Operational Test and Evaluation Force (COMOPTEVFOR) providing oversight.

"Phase one [of OT&E] ... includes a high-level operational assessment of the cockpit by the Navy," Kellogg said. "They are looking at how we can



The MH-60T's new electro-optical forward-looking infrared turret is equipped with cameras, a laser range finder and thermal imaging sensors to improve aircrew situational awareness in day and night operations. The turret also is used aboard Coast Guard MH-65C Dolphin helicopters. USCG photo

best use the new equipment. Phase two OT&E will be conducted out of Air Station Cape Cod, Mass., and will include testing of three helicopters and all the initial logistics—training, support and test equipment, tech manuals, spare parts, etc."

The MH-60T is the first project in Coast Guard aviation history that will deliver a fully operational training system before the first production aircraft are deployed. In addition to upgrading the H-60 Operational Flight Trainer—simulator—at ATC Mobile, the training system effort includes a SLEP to ensure that "the simulator is around to support the aircraft for its entire expected service life," Kellogg said.

### **Coast Guard Systems Integration**

The H-60 Conversion Project is a key component of the Coast Guard's overall modernization plan, according to the Acquisition Directorate. Originally conceived and funded under the Deepwater Program, the project today is part of the Coast

Guard's overarching \$27 billion investment portfolio.

Last year, the Coast Guard consolidated CG-9 into an organization that would be capable of leading the management of new product acquisitions and the integration of state-of-the-market technologies to modernize assets in all functional domains—aviation, surface and ashore.

According to Kellogg, the conversion project is an "excellent example" of the Coast Guard functioning as Lead System Integrator (LSI). The Coast Guard has been developing the capability to assume the role of LSI in its major acquisition projects. Assuming that role requires the Coast Guard build the infrastructure and organizational support—to directly manage subcontractors, ensure that a projects' enterprise architectures are aligned with construction schedules, establish supply chain and other logistics processes.

As the Coast Guard develops its

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strength as an LSI, the service is working closely with other government partners, including the Naval Air Systems Command (NAVAIR) and the U.S. Army.

For example, the H-60 Conversion Project will make use of development work performed by DoD's large H-60 user community. Sharing information and materiel with Defense may pay significant dividends as software and

hardware updates are implemented to address emerging requirements, including changes driven by the Global Air Traffic Management system, Kellogg noted.

The Coast Guard also is working closely with industry, as suppliers support the service's MH-60T product line at AR&SC.

"I really can't say enough about the

job the entire H-60 team has done," Kellogg said. "Office of Aeronautical Engineering (CG-41), the AR&SC and Aviation Technical Training Center at Elizabeth City, the Office of Aviation Forces (CG-711), the Aviation Training Center Mobile and the Office of Aviation Safety (CG-1311) all have contributed greatly to the continued success of the H-60 Conversion Projects."

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for those missions here ... there is certainly more opportunity to satisfy that customer set overseas."

One of the selling points of the Coast Guard's assets is that they are designed to fill a mid-level niche in capability, whereas many of the assets in the U.S. Navy's inventory, including surface vessels and aircraft, are overmatched to an allied service's requirements and budget, Reinert added.

Forexample, the Navy's P-8A Poseidon Multi-mission Maritime Aircraft (a new, twin-engine plane based on Boeing's 737-800ERX commercial jet) will be capable of patrolling more than 1,200 nautical miles, with four hours on station at 490 knots. The P-8A will be equipped for antisubmarine warfare and anti-surface warfare missions—with powerful weapons, synthetic aperture radar and a rotary sonobuoy launcher. On June 14, 2004, the Navy awarded industry a cost-plus-award-fee contract, worth approximately \$3.9 billion, to develop the P-8A. The Navy expects to achieve initial operational capability with the Poseidon by 2013.

The Coast Guard's HC-144A Ocean Sentry Medium Range Surveillance aircraft is capable of patrolling 2,305

nautical miles, with approximately nine hours endurance at 236 knots. The Ocean Sentry is equipped with an electro-optical/infrared sensor, radar, 406 MHz direction-finder, HF/VHF and satellite communications and signals intelligence equipment—for a per unit cost of approximately \$50 million (including spares and logistics support), according to a March 2008 Coast Guard estimate. The HC-144A has flown operationally, with three aircraft currently stationed at Aviation Training Center Mobile, Ala. "We fill a capability gap, providing assets that perform well on a little bit smaller scale, and that are a little bit more economical—to buy and to support—than what the Navy is buying," Reinert said.

Typically, FMS is a government-to-government transaction of goods or services already in the U.S. inventory, the sale of which supports the security of the United States. Once the Coast Guard has an active contract with a vendor, then the product becomes a candidate for foreign sales.

However, the Departments of State and Defense regulate the types of technologies that may be offered through FMS, as well as a list of approved buyers. For example, the DoD's Security Assistance

Management Manual governs all military security assistance programs (including Coast Guard FMS), and the Department of State is responsible for authorizing the release of technologies associated with U.S. assets sold abroad.

DoD is an important stakeholder in the Coast Guard's FMS program for another reason: Defense provides approximately 80-85 percent of the money—through a fund paid for by foreign buyers—to manage and administer the Coast Guard's FMS program.

"There are some things specified in regulations or policy that are supposed to be paid by the service executing the FMS program—supporting disclosure analyses that go up to the Department of State and other efforts that are considered inherent to the program itself," Reinert said. "But many activities—the cost of marketing to international customers, the cost of developing letters of offer and acceptance, the cost of putting those on contract and supporting the deliveries—are paid for by the Defense FMS fund."