



# Delivering the Goods

News from the U.S. Coast Guard Acquisition Directorate

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## Upgraded MH-60T Helicopters Provide More Capabilities

By Linda M. Johnson

**W**ASHINGTON—The U.S. Coast Guard’s Medium Range Recovery Helicopter conversion project has been upgrading the service’s HH-60Js to MH-60Ts by installing new avionics suites that greatly increase their operational capabilities.

Developed to boost the multi-mission readiness of the Jayhawk fleet, the MH-60T conversion project includes a number of upgrades that improve reliability and mission performance while also adding new capabilities, including a communications package and sensor system. Although the H-60’s outward appearance will not change significantly, it will be a completely different aircraft on the inside.

The Coast Guard began converting its 42 in-service HH-60J helicopters to MH-60Ts in January 2007. All Jayhawks are expected to complete the avionics suite and electro-optic sensor system upgrades, which are being done in discrete segments, by the end of 2014. The upgraded helicopters will have a range of 300 nautical miles and a crew of four—two officers and two enlisted.

Lt. Cmdr. Walter Horne, who is the H-60 platform manager in the Office of Aviation Forces, talked about how the MH-60Ts are much better equipped to carry out the Coast Guard’s many missions in challenging environments, especially in the harsh conditions of Alaska, where it recently performed several successful missions.



The MH-60T’s new communications package and sensor system provide significant performance improvements over its predecessor, the HH-60J. *U.S. Coast Guard photo*

“The MH-60T is a dramatic improvement over the H-60J that has been flying in Alaska since the mid-1990s,” Horne said. “The graphics and the visuals and just the technology are so much more advanced than the old system that it provides a lot better capability. We now have a moving map digital display that can provide some awareness as far as the elevation of terrain within the vicinity of the aircraft so pilots now have that information right in front of them when they’re flying.”

### Equipment Upgrades

Discrete Segment 1 of the MH-60T conversion project includes a common avionics architecture system (CAAS) in the cockpit, which

*continued on page 2*

## inside:

Cutter Boats: The Means to the Mission.....p3

Ask the Master Chief Q&A.....p4

*continued from page 1*

provides fully integrated flight and mission management capabilities. Using five multi-function display screens, aircrews can display radar and forward-looking infrared data, monitor the traffic collision avoidance system and view imagery fed into the cockpit from the rescue hoist camera.

The MH-60T has many of the same mission system components as the MH-65C Dolphin Multi-mission Cutter Helicopter, and its CAAS is similar to the cockpit avionics installed on the HC-144A Ocean Sentry Maritime Patrol Aircraft and the HC-130J Hercules Long Range Surveillance Aircraft. These common systems afford improvements in aircraft logistics, training and maintenance.

The Airborne Use of Force (AUF) upgrade—which equips the aircraft with a 7.62 mm machine gun for firing warning shots and a .50-caliber long-range rifle for precise targeting, such as disabling the outboard engines on a non-compliant go-fast boat—has been completed on all aircraft under a separate project. The AUF package also provides ballistic armor for aircrew protection and upgraded communications sub-systems for better interoperability with other U.S. Department of Homeland Security components.

Discrete Segment 2 includes a fully integrated electro-optical/infrared sensor system (ESS) with a new Trakkabeam searchlight permanently mounted outside the pilot's door. "In the past, we had a forward-looking infrared system that we could put on the aircraft but it took up a lot of space in the cabin and limited what you could carry and how many people you could carry," Horne explained.

"Previously, the old searchlight was mounted where the fuel tank would be mounted, so you had an

option—you could take a searchlight or a fuel tank, but you couldn't take both," Horne said. "We didn't have the ability to put all of the sensors on there all of the time. With the MH-60T, we have the capability to carry all of the equipment at the same time."

ESS also provides aircrews with enhanced capabilities to locate, identify and track surface targets day or night, which is a critical capability for both search and rescue and law enforcement missions. Enhanced radar and optical sensors also contribute to an improved common operating picture and increased maritime domain awareness. In order to provide a common system across the service's rotary wing fleet, a new ESS package is also being installed in the MH-65C.

The ESS package also includes "flight plan checkpoints that give pilots more situational awareness, and, in a crosswind, allow pilots to see where the aircraft is supposed to go as opposed to where the aircraft's nose may be pointed," Horne noted.

Other upgrades that are part of Discrete Segment 2 but are still being implemented include the Helicopter Integrated Data Storage (HIDS), which stores information from the ESS system, and the Helicopter Airborne Video System (HAVS), which records audio and video from the ESS and the hoist-mounted camera that covers the hoisting area.

Right now, Discrete Segment 2 upgrades have been installed on all MH-60T aircraft at air stations Elizabeth City, N.C.; San Diego; and Sitka, Alaska. Station Cape Cod, Mass., is currently undergoing its transition. Beginning next summer, Kodiak, Alaska, will be the next air station to receive its full complement of four MH-60Ts.

Discrete Segment 3 will upgrade the helicopter's search radar sensor system and will involve developing and testing a prototype aircraft. Discrete Segment 4 will incorporate an advanced command-and-control suite.

### **Recent Mission Successes**

The MH-60T performed admirably in several search and rescue and law enforcement cases in 2010. In October, two MH-60Ts from Air Station Sitka helped medically evacuate a 53-year-old injured man off a freighter about 250 miles southwest of the station.

In September, an aircrew used the MH-60T's new Trakkabeam spotlight to illuminate a vessel that had gone aground in Sitka Sound and safely transfer the vessel's captain to a rescue boat.

That same month off the coast of San Diego, an MH-60T equipped with ESS and a new searchlight helped locate a go-fast boat heading for a beach with about 20 migrants from Mexico. Once the boat was spotted, the Coast Guard called U.S. Customs and Border Protection and the local sheriff, who detained the individuals.

Last June, a Sitka aircrew found a lost hunter at night in Alaska using the MH-60T's ESS in combination with night-vision goggles.

As these cases show, the MH-60T has proven itself to be a valuable asset in a number of situations, especially in Alaska's challenging terrain.■

More information on the MH-60T project can be found online at: <http://www.uscg.mil/acquisition/mrr>

## Cutter Boats: The Means to the Mission

By Michael Valliant

A Coast Guard cutter arriving on the scene for a search and rescue or drug interdiction mission without a small boat on board is a bit like a fire truck arriving at a fire without a ladder or water. The cutter needs its cutter boat to carry out its missions. Cutter boats are the small, maneuverable boats that are launched and recovered from the deck of a parent cutter.

"Whether it's a patrol boat or a Medium Endurance Cutter or a National Security Cutter, the cutter boat is everything," said Ken King, project manager of the Coast Guard's legacy cutters and cutter boat projects. "That's what delivers your boarding team for a law enforcement boarding or rescues people from a sinking vessel in a search and rescue case. It's one of the most important capabilities of the ship."

As the former skipper of a 110-foot patrol boat and a retired Coast Guard captain, King brings his perspective of having used and seen cutter boats in action to helping the service acquire them.

The cutter boats project includes the 7-meter Over the Horizon (OTH) Mark IV and the 11-meter Long Range Interceptor (LRI) Mark II, which are being built to outfit the service's National Security Cutters (NSCs). The primary focus of the cutter boats project is to supply each NSC with two OTH-IVs and one LRI-II, not including spares.

### Acquisition Strategy

In acquiring cutter boats, the Coast Guard isn't going to produce new ones from scratch when it can go out and buy an existing product that meets its needs.

"For the OTH, the acquisition strategy is that it's commercially available, as opposed to a design-and-build," King said. "We have put out requests for information and confirmed that the OTH is commercially available and can meet our key performance parameters."

Based on these findings, on December 14, 2010, the Coast Guard released a request for proposals (RFP) for industry to bid on supplying the OTH-IVs. Proposals are due back in February. The current schedule calls for the first production orders to commence in the second quarter of calendar year 2012.

The RFP that is currently posted for the OTH-IV is a small business set-aside, meaning that, to be considered, a bidding company must have 500 or fewer employees. Proposals will go through a two-phased evaluation process.

Phase I consists of reviewing written proposals received in response to the current solicitation, after which the Coast Guard will award up to four fixed-price contracts to produce at least one boat each. Once the ordered OTH-IV boats are delivered and accepted, phase II of the process begins, during which the boats are tested and evaluated. Phase II will conclude with the selection of a single production contractor based on the overall best value of the accepted boats.

On the other hand, market research conducted two years ago on the LRI-II showed that it was not commercially available. If that is the case, then a new boat would have to be built to Coast Guard



Crew members prepare to depart in the Over the Horizon (OTH) small boat aboard the U.S. Coast Guard Cutter Bertholf, the first-in-class National Security Cutter (NSC). Each NSC will be outfitted with two OTH cutter boats. *U.S. Coast Guard photo by Petty Officer 2nd Class Jetta H. Disco*

specifications. But given the age of the information, the service is preparing another request for information from industry to determine if the LRI-II it is looking for is now commercially available. That request for information will likely go out later this winter.

### Future Uses

Though the immediate work of the cutter boat project is to supply these critical vessels to the NSCs, there are a number of additional potential uses for them.

*continued on page 4*



*continued from page 3*

“The way our acquisition plan is structured, it allows us—funding permitting—the option to procure cutter boats for the Fast Response Cutters,” King said. “It also leaves the option open for the Offshore Patrol Cutters and it even leaves the option open to buy some for the Navy, buy some for Customs and Border Protection, and buy some for the legacy Medium Endurance Cutter fleet.”

The possibilities could potentially add up to 101 boats, but King says that right now the project is focused on 19 OTH-IVs and eight LRI-IIIs for the NSCs. They are targeting the Hamilton, the fourth

NSC, as the first cutter to get the newest models of the cutter boats. They are also scheduled to deliver temporary cutter boats for the third NSC, the Stratton, in May.

### **Increased Capability**

Diane Burton, assistant project manager for cutter boats, sees the increased capabilities the new cutter boats deliver to the fleet.

“The cutter boats extend the reaches of the cutter’s mission,” Burton said. “And the LRI, being almost 11 meters, is like a big pickup truck. It can do a lot more—it can haul a lot more people and it can operate in bigger waves.”

When you consider the Coast Guard missions carried out via a cutter boat, it’s hard to overstate the importance of these small boats to the larger cutters. King can tell you firsthand from his experience rescuing Haitian and Cuban migrants.

“It’s the cutter boat that rescues people in the water. It takes people off sinking boats and transfers migrants from their decrepit craft onto the cutter,” he said. “If you’re without a cutter boat, you’re lost.” ■

## **ASK MASTER CHIEF AYER**

**Q.** What are the Coast Guard’s plans for cutter boats? I heard all new cutter boats will have water jet propulsion?

**A.** Although cutter boats don’t get as much attention as some of our larger and more visible projects, they are arguably one of our most important, at least in the surface domain. As anyone who has spent time underway can tell you, a cutter without an operationally effective cutter boat is kind of like a hobbled horse—all kinds of potential and no way to utilize it effectively.

Our cutter boat project is moving along quite well. In keeping with our goal of commonality and interoperability whenever possible, our objective is to acquire standard cutter boats for all our larger cutters. Current plans are for one boat in the 7-meter range and one in the 11-meter range, currently called the Over-the-Horizon Mark IV (OTH-IV) and Long Range Interceptor Mark II (LRI-II), respectively. The advantages of having the same boats on our cutters include common training and qualification, common logistics and spare parts, and the ability to move boats between cutters easily. This translates to increased operating capability and reduced operating costs.

Currently, there is a Request for Proposals (RFP) out on the street for the OTH-IV. A Request for Information (RFI) for the LRI-II is scheduled to be released later this winter. Water jet propulsion is the direction we are heading. Stern launch systems on both the National Security Cutter and the Fast Response Cutter require jet drive.

— 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](mailto:Brett.F.Ayer@uscg.mil) or [acquisitionwebsite@uscg.mil](mailto:acquisitionwebsite@uscg.mil).]*

