



Delivering the Goods

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BERTHOLF In Final Fitting-out; Crew Focus On Training, Applying Lessons Learned

By Hunter C. Keeter

WASHINGTON—Years of planning, design and construction, and a grueling period of sea trials now past, the Coast Guard is completing the final fitting-out and testing of BERTHOLF, the first National Security Cutter (NSC). Meanwhile, Capt. Patrick H. Stadt and his crew are planning to apply what they have learned as they train to live and work aboard the most complex and capable white-hull cutter in the Coast Guard’s history.

“My number one priority is the safety of the crew,” Stadt said. “My next priority is training; I want to ensure that the crew is ready and able to safely operate the ship and its systems in port and underway. Third, once we do get underway, the crew will apply their basic education and training to the real systems and learn how to operate the ship in the most effective and efficient manner.”

Once underway, BERTHOLF will begin a circuitous voyage—up the East Coast and then back to home port at Alameda, Calif. The first stop is Miami, where Stadt plans to display his cutter to the headquarters of Seventh District and the Joint Inter-Agency Task Force.

“My intent is to show the operational commanders and future commanding officers the boat, as they may not get another chance to see it before it becomes certified,” Stadt said.

On the way up the East Coast, BERTHOLF will conduct structural test-firing at sea of her Mk 110 57mm forward gun mount. Arriving in Chesapeake Bay, Stadt plans to visit Annapolis, Md., and Baltimore



MOBILE BAY, Ala.—The first National Security Cutter, BERTHOLF, performs sea trials beginning Feb. 8, 2008. Following delivery and completion of testing to ensure the cutter meets all requirements, BERTHOLF will move to her home port at Alameda, Calif. (USCG photo by PA2 Bobby Nash)

to give Coast Guard leadership, Congress and other stakeholders in the Washington, D.C., area an opportunity to see the new cutter.

TRAINING

Even as BERTHOLF is completed in the shipyard at Pascagoula, Miss., Stadt and his crew face a heavy workload. In the months to come, they will undertake an aggressive hands-on training schedule to build and strengthen their readiness and that of their ship, according to Lt. j.g. Krystyn E. Pecora, BERTHOLF’s assistant operations officer.

“The Coast Guard’s Afloat Training Group, Pacific (ATGPAC) will send a team to Pascagoula, to work with us for six-and-a-half weeks of additional preparations,” Pecora said. “We are going to be doing fire drills, flooding drills, basic damage control drills; we want to make sure that everyone is prepared to operate the ship in

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every situation. Then we will move into engineering drills and other exercises on the bridge and in the Combat Information Center (CIC). This will help everyone work through their qualifications.”

The training process began long before the imminent move of the crew aboard ship. For more than two years, the crew has been working to complete 400-plus training courses, including contractor- and Coast Guard-provided classes, as well as Navy programs that addressed some of the cutter’s Department of Defense-acquired equipment. For example, the Navy has provided sensors, such as the AN/SPQ-9B high-resolution, X-band radar set; and armament, such as the 57mm main battery and the Mk 15 Block 1B 20mm Close-in Weapon System.

Two simulation facilities have prepared the crew to meet the challenges of operating BERTHOLF’s

complex equipment. At the Coast Guard Training Center, Petaluma, Calif., the operations team practiced working in an exact duplicate of the cutter’s CIC. The crew’s bridge team also worked at the U.S. Army’s Mare Island simulation center at Vallejo, Calif.

Meanwhile, the Coast Guard has developed an innovative approach to peer training called the Cutter System Learning Program (CSLP). Pecora explained that CSLP requires each crew member to select one of BERTHOLF’s systems, learn everything about it and then train the rest of the crew. The goal is for everyone to gain familiarity with each system aboard. Crew members then move on to train in-depth on the systems linked to their specific jobs.

For example, the ship’s engineers provided the entire crew a general overview of BERTHOLF’s power

plant. The engineers then separately developed a more detailed understanding of BERTHOLF’s power plant: one GE LM2500 gas turbine and two MTU 1163 diesel engines, and the cutter’s integrated machinery control and management system.

CSLP is one of the ways in which the Coast Guard plans to capture lessons learned from BERTHOLF and share them with other NSC production teams and pre-commissioning crews.

Underway, the crew will continue their peer and individual professional development. Each six-person berthing area includes two computer workstations. BERTHOLF also has a dedicated training center, with network access to the Coast Guard and online university courses to provide a comprehensive learning environment for the crew.

INFORMATION MANAGEMENT

One challenge that will be overcome through training and familiarization with BERTHOLF’s technology is information overload. The NSC’s integrated command and control systems enable a smaller crew—113 compared with 178 aboard a 378-foot, high-endurance cutter—to work more efficiently, but the learning curve is steep.

Pecora noted that one of her personal challenges will be to develop her skills with the cutter’s integrated navigation and bridge system. The electronic system enables the crew to ‘drive’ the ship safely and monitor its systems in all environmental conditions, but it requires the crew to learn a new discipline. Instead of relying solely on paper manuals and paper charts, BERTHOLF’s crew will get used to controlling and navigating an essentially ‘paperless cutter.’

“I am looking forward to getting onto the bridge and working with the helm controls and the different computer systems there,” said Pecora. “These are great tools to use, but there is a lot of information. We are going



ALAMEDA, Calif.—Chief Petty Officer Scott C. Porter, a damage controlman, demonstrates proper posture and how to support the nozzleman during damage control firefighting training, Aug. 15, 2007. (USCG photo by Petty Officer 2nd Class Kristofer I. Navarro)

to take some time to learn how to prioritize information and how best to visualize that and use the technology to accomplish our missions.”

Stadt noted that shore-based training has gone a long way to prepare his crew—machinery and software simulations at TRACEN Petaluma and elsewhere provided identical equipment and systems interfaces to those found aboard BERTHOLF. But the intangible now is becoming real as personnel prepare to move aboard, where they will be working and living with their new cutter.

“The thing that excites me the most about this ship is the expression I am going to see on my crews’ faces when they have that ‘prize’ at the end of their long preparation,” Stadt said. “As a pre-commissioning unit, we have spent a long time studying and practicing in simulations. Now we will finally get out there and apply what we have learned to the real ship and its equipment.” ■



PASCAGOULA, Miss.—Petty Officer 1st Class Demosthenes Daniel, an electrician’s mate, shows Petty Officer 3rd Class Adam Novotny, a machinery technician, parts of the first National Security Cutter’s ship service diesel generator set. BERTHOLF has three diesel generators that can be aligned to provide primary, standby and emergency power. (USCG photo by Petty Officer 3rd Class Michael Anderson)

Coast Guard HC-144A and HC-130J Projects Spotlight Aircrew Training Efficiency

By Stephanie C. King and Emily E. Mellott

Two key Coast Guard aircraft projects have joined forces to more efficiently train crews on the mission systems of the HC-144A Ocean Sentry and HC-130J Hercules. Even though these are very different airframes, the Coast Guard expects to reduce the time and cost of training for both because they use similar mission equipment and sensors.

“We estimate that there is a shared 85 percent generic commonality between the two aircraft from an operator-in-the-seat perspective,” said Don A. Rudat, Aviation Sensors/C4ISR Training Team Chief with the Aircrew Training Center (ATC), Mobile, Ala. “The commonality between the two aircraft will permit [shared] procedures for equipment operation and system employment.

Upon completion of a four-year tour, mission systems operators assigned to the HC-144A would qualify to operate the mission system aboard the HC-130J (and vice versa) in minimum time.”

The HC-144A is the Coast Guard’s newest aircraft type, destined to fulfill the role of a Medium Range Surveillance (MRS) platform. The government plans to acquire 36 Ocean Sentries, which are equipped for Coast Guard service at the Aviation Repair and Supply Center, Elizabeth City, N.C., and at ATC Mobile. Meanwhile, six Coast Guard HC-130J Long Range Surveillance (LRS) aircraft are being upgraded with new mission equipment in Lockheed Martin’s facility at Greenville, S.C.

Both aircraft are integral to execution of the Coast Guard’s search and rescue, maritime domain awareness, law enforcement and disaster response missions. After modifications are complete, both aircraft will have virtually identical Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) equipment.

The mission systems are packaged differently for each platform, but include essentially the same equipment: forward looking infrared/electro-optical sensors; direction-finding equipment (the DF-430); Automatic Identification System (AIS); and common satellite and emergency response radios.

HC-130J Long Range Surveillance Aircraft



MOBILE, Ala.—A Coast Guard HC-130J Hercules from Coast Guard Air Station Elizabeth, N.C., lands at Coast Guard Aviation Training Center, Thursday, Jan. 31, 2008. The aircraft transported BERTHOLF's pre-commissioning crew from Sacramento, Calif. to the Gulf Coast, where they helped oversee their cutter's sea-trials. (USCG photo)

A workstation aboard an HC-130J. The Coast Guard is installing new equipment aboard six of its J-model Hercules aircraft. The HC-130J's mission system shares many components with the mission system installed aboard the HC-144A Ocean Sentry. (USCG photo)



Both aircrews use similar tactical workstations and computers loaded with similar data processing software.

The main differences between the two aircraft are their radars and communications interfaces. However, the program office noted that the different mission systems share identical operating principles and

communications data.

Crews for both aircraft types are trained at ATC Mobile through computer-aided instruction, the Coast Guard Aviation Center of Excellence Lab, and hands-on experience with the systems aboard HC-144As located on-site. In addition to teaching system operations, the aircrews will learn similar tactics, using the same

methods of system employment between the two airframes.

Initially, ATC Mobile estimates an annual throughput of 32 mission system operators. This number is expected to increase steadily as the Coast Guard takes delivery of additional HC-144A aircraft. ■

HC-144A Medium Range Surveillance Aircraft



An HC-144A Ocean Sentry Medium Range Surveillance Aircraft in flight. The Ocean Sentry is part of the Coast Guard's aviation modernization strategy and will recapitalize the service's aging HU-25 Falcon/Guardian maritime patrol aircraft. (USCG photo)

The Mission System Pallet aboard the HC-144A includes sensors, data processors and workstations that share many components with the HC-130J Hercules. The Ocean Sentry's workstation allows operators to collect and disseminate information from the aircraft's sensors, and communicate securely with other platforms and facilities. (USCG photo)



RB-M Project Marks First Delivery; Begins Operational Test & Evaluation Phase

By Cmdr. Robert D. MacLeod

On April 7, 2008, Coast Guard Station Little Creek, Va., took delivery of the first Response Boat-Medium (RB-M): hull No. CG 45601. The delivery culminated six years' effort to bring this very capable asset to the field. The project now moves on to Operational Test & Evaluation (OT&E), during which the Coast Guard will verify that the RB-M

meets the operational effectiveness and suitability requirements of operational commanders.

"After personally observing the RB-M operate...I am convinced the Acquisition Directorate has delivered a tremendous tool to support Coast Guard mission execution," said Rear Adm. Gary T. Blore, the Coast Guard's

Chief Acquisition Officer. "I believe Coast Guard boat forces will find the RB-M is a quantum leap forward in comparison to our existing small boats."

CG 45601 is the first of an anticipated 180 RB-Ms to be delivered over the next seven years. The second RB-M is scheduled for delivery



NORFOLK, Va.—Coast Guard Station Little Creek, Va., accepts the first 45-foot Response Boat-Medium (RB-M), April 7, 2008. Coast Guard plans to acquire 180 RB-M, to replace legacy utility boats and improve readiness and responsiveness at boat stations nationwide. (USCG photo by Petty Officer 2nd Class Christopher Evanson)

to Station Cape Disappointment, Wash., in August 2008. Following at approximately one-month intervals, the Coast Guard plans subsequent deliveries to Key West, Fla.; Milwaukee; New York; and Port Aransas, Texas. These stations were chosen strategically for the range of missions that they execute and the different environmental conditions that they represent.

The RB-M replaces the aging 41-foot utility boats, which have been the workhorses of Coast Guard small boat stations for more than a quarter of a century. The 45-foot RB-M is a multi-mission boat that will operate in coastal zones, which include inshore and inland waterways and open ocean out to 50 nautical miles. It is a self-righting, all-aluminum boat with twin diesel engines and water jet propulsion. It is capable of speeds greater

than 40 knots (46 miles per hour) and provides significantly improved maneuverability when compared to the boats it is replacing.

With a full cabin providing protection from the elements, a robust navigation system, heating and air conditioning, shock mitigating seats, and a communication system capable of communicating with other federal, state and local agencies, the RB-M provides greatly enhanced capability for Coast Guard small boat stations. Primary missions for the RB-M include search and rescue; ports, waterways, and coastal security; defense readiness; and marine environmental protection.

During the approximately 18 months of OT&E, the Coast Guard will evaluate the RB-M for its operational effectiveness and suitability through a variety of standard operations, as

well as unique missions across a wide variety of environmental conditions.

Following completion of OT&E, the project will seek authorization to proceed to full production. Once authorized, production will be accelerated to a rate of 30 RB-Ms per year by late 2010, continuing at that rate through delivery of all 180 boats, currently scheduled for 2015.

All RB-Ms currently in production (Nos. 45602–45605) are being built by Marinette Marine's subcontractor, Kvichak Marine Industries, at Kent, Wash. To increase production during summer 2008, Marinette Marine plans to open a second production line in Wisconsin.

With delivery of the first RB-M, the project remains committed to its creed—"Honor boat crews, embrace technology, deliver value." ■

From the Master Chief:

Over the last year, we have received variations of the same rumor—that the Deepwater Program funding has created shortfalls elsewhere in the Coast Guard budget. I have researched this issue from several different directions and talked with several funding experts. I found nothing to substantiate that rumor.

As you review the Coast Guard's budget since the late 1990s, you notice increases in the top line, especially as Deepwater program funding was included. Some have argued that Deepwater has taken funding from infrastructure improvements, like training facility upgrades and other programs. On the contrary, each Deepwater project has received its own line-item funding—taking nothing away from other programs. Moreover, Deepwater has contributed to the Coast Guard receiving its largest budgets ever.

Yet, many people out there believe that program funding for Deepwater—which was specifically placed in the budget by Congress—has absorbed some of our infrastructure and construction dollars. This is not true.

There are also some units that, due to foreseeable needs, have used their own funds to construct, outfit and man training facilities. To those units, I say, "Thank you," and we are currently working with your training commands on a way to secure additional funding to support you going forward.

