People. Partnership. Performance.

DEEPWATER News

Washington, DC October 2004

WMSL Start-of-Fabrication Milestone Recognized

September 9, 2004 marked the beginning of construction of the first new Deepwater cutter, the Maritime Security Cutter, Large (WMSL). The Deepwater Program reached another milestone in its journey to provide the men and women of the Coast Guard the necessary capabilities to attend to the maritime homeland security needs of this great nation.

The start-fabrication ceremony for the lead ship, WMSL-750, was held at the Northrop Grumman Ship Systems (NGSS) Ingalls Operations in Pascagoula, Miss. held two days before the anniversary of the terrorist attacks on our nation three years ago.

Mr. Paul Robinson, vice president, NGSS Ingalls Operations, was the master of ceremony for the audience of approximately 200 persons that included representation from the state of Mississippi, the Department of the Navy, and union officials.

Following the presentation of colors by the Coast Guard's Eighth District Color Guard and the playing of the National Anthem, Mr. Fred Moosally, president of Lockheed Martin Maritime Systems & Sensors, noted how proud Lockheed Martin was to join its partner, Northrop Grumman, in serving the Coast Guard, but stressed it was the people on the Deepwater team with their expertise and passion for invention and innovation that was the secret ingredient in making the Program and WMSL a success.

Pictured at the moment the first steel is cut for the WMSL 750 are (l.-r.) Mr. Paul Bosarge, NGSS burner specialist; Rear Adm. Patrick Stillman, Deepwater PEO; Rear Adm. David Kunkel, Director, USCG Operations Capability; Dr. Philip A. Dur, NGSS president; and Mr. Fred P. Moosally, president LM-MS2. USCG/PAC Jeff Murphy

Quoting George Bernard Shaw, Dr. Philip Dur, president of NGSS, said "Imagination is the beginning of creation. You imagine what you desire, you will what you imagine and at last you create what you will." He called the day one of great beginnings.

"The history of the Coast Guard has been meeting the challenges of a challenged nation. This ship will be built to go into harm's way, and in harm's way it will go," Dur remarked.

The WMSL will be a 421-foot vessel with a 4,112-ton displacement at full load when the lead ship is delivered in spring 2007. It will be powered by a twin-screw, combined diesel and gas turbine power propulsion plant designed for a maximum speed of 28 knots. The cutter will include an aft launch and recovery area for two rigid hull inflatable boats, a flight deck to accommodate a range of rotary wing manned and unmanned aircraft and state of the art command-and-control electronics.

Mr. James Anton, vice president, Deepwater Program, Northrop Grumman Ship Systems, described the ship as "the most complex asset of the Deepwater Program."

Acknowledging everyone in attendance as honored guests, including Rear Adm. David Kunkel, Director of Operations, and Capt. Patrick Stadt, Office of Deepwater Sponsor's Representative, Rear Adm. Patrick Stillman, Program Executive Officer for the Coast Guard's Integrated Deepwater System Program, called the day "a profound day for the Coast Guard." People, partnership and performance is how the Coast Guard and Integrated Coast Guard Systems got to where they are to-

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day. "This ship will fully complement the goals that have been determined by President Bush and this country's efforts to fight terrorism," said Stillman.

Calling the WMSL a "magnificent vessel" that will carry out the Coast Guard's national security missions, Stillman said, "...her line speaks to her capabilities and to her purpose and her color and stripe speak to the aspirations and the legacy to which she will contribute."

Designed from the keel up to satisfy the Coast Guard's multi-mission responsibilities including homeland security, marine safety, and environmental protection, the production effort of the WMSL will be lead by NGSS. Lockheed Martin will be responsible for the design, manufacture, and integration of the cutter's systems for C4ISR (command, control, communications, computers, intelligence, surveillance, and reconnaissance).

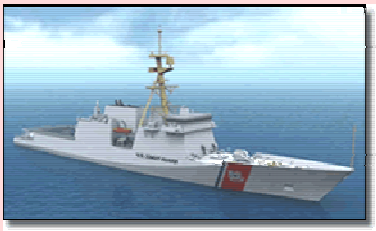
The design of the WMSL will provide better sea keeping and higher sustained transit speeds, greater endurance and range, and the ability for launch and recovery, in higher sea states, of improved small boats, helicopters, and unmanned aerial vehicles.

Following the remarks, Rear Adm. Stillman and NGSS burner specialist Mr. Paul Bosarge operated the machine that set the weld, cutting steel and sending out sparks signaling the WMSL's start of construction.

The WMSL's keel laying will be the next milestone to be marked with a ceremony, tentatively scheduled for April 2005.

by LCDR Andrea Palermo

Deepwater Asset: Maritime Security Cutter, Large (WMSL)



Length:	**421 FT**
Displacement:	**4,112 LT**
Max Speed:	**28 KTS**
Endurance:	**60 Days**
Range:	**12,000 NM**
Propulsion:	**CODAG (Combined Diesel and Gas), 1 Gas Turbine, 2 Diesels /Bow Thruster**

Commandant Addresses Maritime Security Needs

Describing the U.S. marine transportation system as both a "vulnerable and valuable" dimension of the global war on terrorism, Coast Guard Commandant Adm. Thomas H. Collins said there is a "great sense of urgency" associated with the Coast Guard efforts to bolster U.S. maritime homeland security through refined practices, an enhanced security regime, improved awareness, and better capabilities.

Collins, participating on a sea-service panel at a forum sponsored by the Naval Institute and the Marine Corps Association on Sept. 7 in Arlington, Va., said the Coast Guard has adopted a multifaceted approach to mitigate risk in the maritime domain—a massive distribution network for 95 percent of U. S. commerce. Key are ongoing efforts, in close collaboration with the U.S. Navy and other joint partners, to improve maritime domain awareness.

The development of an appropriate and more effective security regime, with national and international dimensions, was advanced by this year's implementation of the Maritime Transportation Security Act of 2002 and agreement by 152 nations to strengthen international security regulations through the adoption of a new protocol under the International Maritime Organization.

Improved sharing of security, safety, commercial, and law-enforcement information plays an important role in the creation of an enhanced global maritime domain awareness that will allow nations to create layered, multi-agency, integrated maritime security defenses to combat the threats of terrorists and trans-national criminals.

"The key to success is to build out the right capabilities, and we're doing it very aggressively," said Collins. The Deepwater Program, a system-of-system approach to the modernization and recapitalization of the Coast Guard's aging and obsolete inventory of aircraft, cutters, and supporting systems, will play a significant role.

Improved joint operations also is an important element in the Coast Guard's efforts to bolster maritime homeland security. "This

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must be jointness with a capital 'J" in the inter-agency process," Collins said. "It is an all-hands affair." Collins stressed the importance of the Coast Guard's close relationship with the U.S. Navy and Marine Corps.

"We need to keep investing in joint interoperability," he said, "The highest return on our investment to mitigate risk is maritime domain awareness," said Collins. "We must be prepared for consequence management, but that is a terrible place to be." Efforts to improve awareness of events in the maritime domain include the development of a new national architecture. "There is a great sense of urgency to close the gaps," Collins said.

by Gordon I. Peterson

57mm Gun for WMSL Completes Test Firing Series

The Mk 110 Mod 0/57mm gun and its associated ammunition that will arm the Maritime Security Cutter, Large (WMSL) are nearing the end of an extensive testing program.

Over the past 10 months, the 57 mm gun has completed a series of test firings at the Potomac River Test Range in Dahlgren, Va., to evaluate its performance and capabilities. A combined team from Naval Surface Warfare Centers (NSWC) Dahlgren and Louisville conducted majority of the testing. CWO4 (Weapons) David Jones of the Engineering Logistics Command was the Coast Guard's on-site test team representative.

A recent photo of the 57mm Gun Test Fire. Shown is the gun with 120 expended rounds.
Photo Courtesy of NSWC Dahlgren

Between November 2003 and September 2004, well over 2,000 rounds of 57 mm ammunition were successfully test fired. The test firings have been conducted in three phases to evaluate blast effects, ballistics, and serviceability. The 57 mm gun and its ammunition have been tested in accordance with U.S. Naval Standards, with the goal of presenting the data to the Weapon System Explosive Safety Review Board (WSESRB).

During the phase I blast effects test series, the team fired the 57 mm gun to determine its safe firing parameters and to familiarize the team with the gun's capabilities. Both the inert training practice and pre-fragmented, programmable and proximity fuzed (3P) rounds were fired to determine their capabilities during phase I testing.

Once phase I testing was completed and the safe firing parameters of the gun were validated, the team progressed onto phase II testing. Phase II testing consisted of ballistic-table development and 3P fuze validation. The test team continued on to phase III serviceability testing with a rigorous and demanding firing sequence.

The serviceability testing included multiple 120-round firing evolutions at high firing rates to determine the gun's sustainability. During one week's course of firing, the test team successfully fired well over 620 rounds and collected a wealth of data. During the completion of test fire series phase III Vice Adm. Timothy LaFluer, Commander, Naval Surface Forces, U.S. Pacific Fleet observed the final 10 gun firings. The last rounds fired determined the gun's sustained accuracy, barrel life, and overall condition after all three test phases. The combined test team will now evaluate and analyze all of the data collected from the three test-fire phases and develop a final report to present to the WSESRB.

During the time that the 57 mm gun was being tested, the Deepwater Sponsors' Representative Office was working with Integrated Coast Guard Systems, NSWC Louisville, NSWC Dahlgren, and the Deepwater Program management team to concurrently develop a complete gun weapon system. (GWS) to accurately fire the gun and ammunition. A nomenclature request has been submitted to establish the WMSL's GWS to include the Mk 110 Mod 0/57 mm Gun, Mk 46 Mod 1 Optical Sighting System, AN/SPQ-9B Radar, and the Mk 160 Gun Control System ballistic computer. The system elements of the GWS, combined with the results from the 57 mm Gun Test Fire Series, will provide the Coast Guard with a very capable combat system to meet the WMSL's required performance specifications.

by LT Timothy Hackett

ICGS Welcomes Prospective Deepwater Suppliers

More than 400 people from over 130 companies attended Integrated Coast Guard Systems' (ICGS) third annual Supplier Industry Days conference, in Rosslyn, Va. from August 30 to September 1. The companies in attendance represented a wide variety of industrial products and capabilities for consideration in support of the Deepwater Program.

"These are exciting times…for the Deepwater Program," said Capt. Doug Russell, Deepwater program manager for the Coast Guard.

"The Coast Guard has witnessed a steady increase in our homeland maritime security workload at the same time our operational tempo remains high for our traditional missions.

"The Deepwater Program is a far-reaching effort designed to give the men and women of the Coast Guard the necessary tools to continue to do their jobs," continued Russell.

Attendees at the 3rd Annual ICGS Supplier Industry Days listen as Deepwater Program Manager Capt. Doug Russell (inset) addresses the group. NGSS/Joseph Baricev

"We are doing so much at once on this program…we can't do it alone, so we look to [suppliers] to help us achieve great things."

Dale Bennett, president of ICGS, continued Capt. Russell's theme. "Deepwater is a national program, with suppliers from 36 states and several best-value foreign suppliers," he noted, "We are continuously in search of new suppliers who will bring innovation and broad expertise to this vital program."

Attendees heard from Joe Battaglia, president of Telephonics, a successful participant in a past Industry Days event.

"The open business model process and timeline allowed time for Telephonics to better understand the Deepwater Program and for the Deepwater system requirements to mature," said Battaglia. "It is a fair and systematic approach that treats all bidders equally and rewards those with the most innovative approach that provides maximum operational effectiveness at the lowest total ownership cost."

Under its open business model, ICGS continuously reviews new technologies, capabilities, and opportunities to provide the Coast Guard with solutions that maximize operational effectiveness and minimize total ownership cost.

by Margaret Mitchell-Jones

HH-65 Helicopter Successfully Completes Flight Test

ICGS has successfully conducted initial flight tests of the first re-engined HH-65 helicopter for the Coast Guard. The flight took place at the Coast Guard Aircraft Repair and Supply Center in Elizabeth City, NC—marking the first production aircraft of the fleet to receive a new power system under the Deepwater Program.

"The initial test flight is another example of exceptional teamwork among ICGS, the Coast Guard and our first-rate suppliers," said Dale Bennett, president of ICGS. "I want to acknowledge the hard work and dedication of the many engineers, mechanics, technicians, and inspectors who have been working this re-engine effort around the clock."

The re-engined HH-65 helicopter successfully completed initial flight testing in Elizabeth City, NC. ARSC/L. Couch

In compliance with identified system performance specifications, the Coast Guard requested ICGS take immediate and definitive action to re-engine the HH-65 fleet to ensure safe and reliable operations.

The Coast Guard currently flies 96 HH-65 "Dolphin" helicopters in its fleet. The twin-engine helicopters are particularly well suited for border patrol, monitoring illegal immigration and drug interdiction. The modernization effort includes the provision of kits to re-engine all 96 helicopters with the Turbomeca Arriel 2C2 engine, and enhance the craft with a reconfigured cockpit and specialized avionics software to facilitate shipboard operations.

by Margaret Mitchell-Jones