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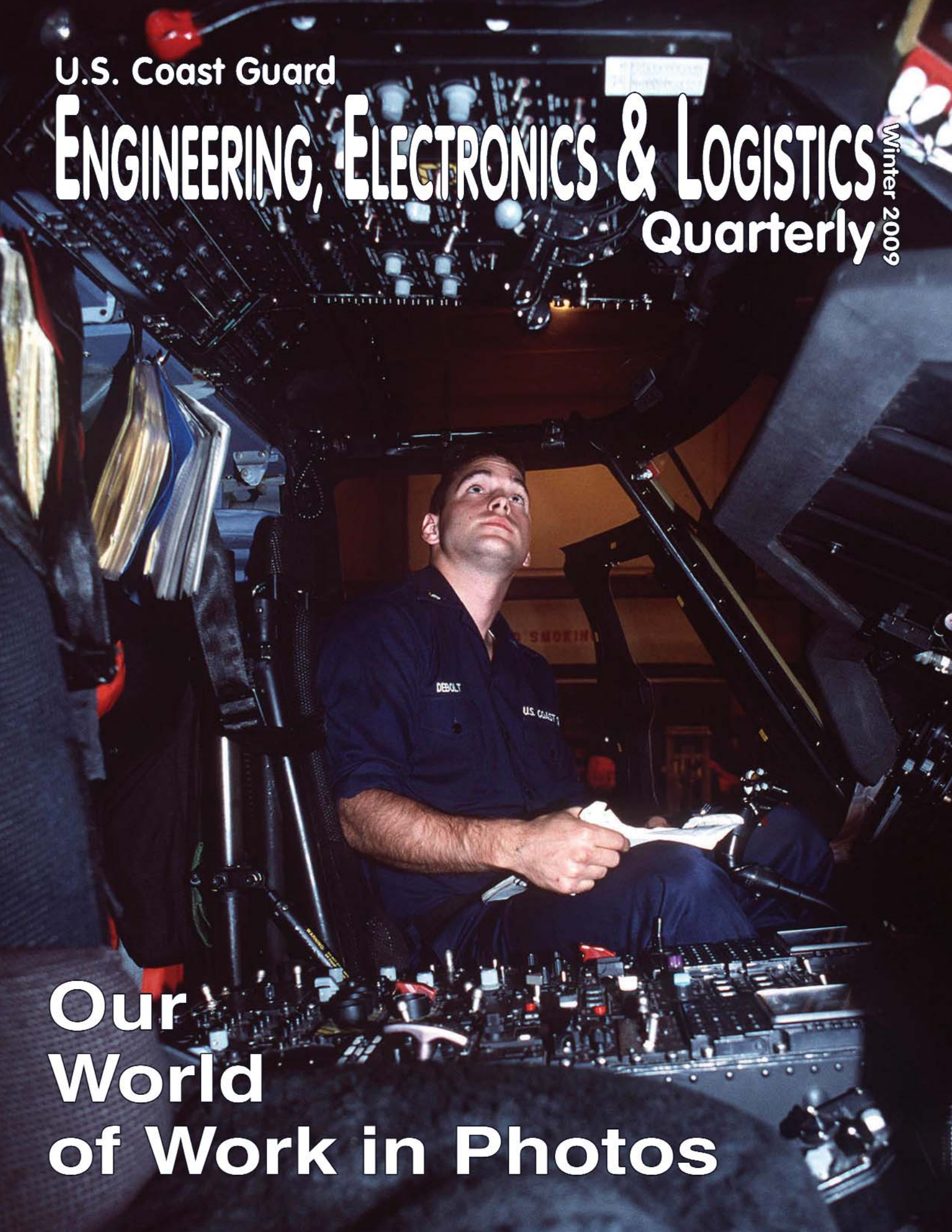
Winter 2009



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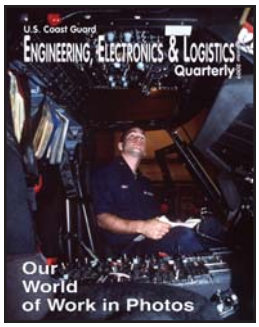

***On the Cover*: ASTORIA, Ore. (Sept. 11) - An avionics Technician (AVT) from Coast Guard Air Station Astoria here checks the electronics of an HH-65 Dolphin helicopter. USCG photo by PA2 Jacquelyn Zettles. See more images starting on page 44.**

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***Back Cover*: Headquarters recycles day poster.**

From the Assistant Commandant

Over the last five months I have traveled untold thousands of miles and visited over 30 different Coast Guard units. At every stop, I am told that we need more people and money and in some cases this is true, but in many cases we need to use what we have more efficiently and more effectively to support all Coast Guard operations.

Being a learning organization means the enterprise must be transparent, self-critical, introspective and open to constructive criticism. Logistics transformation in the Coast Guard means reexamining everything we do to support operations. I am talking "Big L" logistics here; including people, money, supply, procurement, engineering, facilities, maintenance practices, training, etc.

Two years ago Admiral Allen wrote that the Coast Guard needed to stop acting like a small business and start acting like a Fortune 500 company. Today the Coast Guard is a $9.5 billion dollar company and employs over 50,000 people. Logistics transformation looks to leverage these resources in new and better ways in support of everything we do. By tying our existing information technology (IT)

systems together and with the development of new IT systems such as Coast Guard Logistics Information Management System (CGLIMS), the Coast Guard will become a sensing organization and will be able to make knowledge-based decisions founded on solid, real-time data.

The Coast Guard has the power of large numbers. With the size of our workforce and budget, making even small improvements in how we employ our resources will literally produce money and people for badly needed operations and support. Efficiencies and improvements of just 3-4 percent can free up millions of dollars for better use and provide large numbers of work hours for better productivity. This is not doing more with less; this is acting like a Fortune 500 company. It is about being a superior steward of our Nation's resources and about delivering the best possible service to the nation. It is also what our workforce expects of us.

Building out the five logistics centers and relentlessly pursuing the four key elements of logistics transformation (Configuration Control, Total Asset visibility, Bi-Level Support and Product Line Management support) is vital to our success. However this will not be easy. There will be missteps, course changes, unexpected shortages, clumsy IT interfaces and plenty of hard work. With patience, tolerance for mistakes and steady resolve we will make this work. Successful logistics transformation is about achieving affordable readiness. It is more evolution than revolution and it will take time and effort from all of us.

Thomas Ostebo RDML, USCG
Assistant Commandant for
Engineering and Logistics

Yard Receives Inaugural DHS Award for Excellence in Acquisition (Yard)

Yard and Coast Guard Headquarters' managers instrumental in executing the contract awards for the Landfill Gas Project recently received the 2007 Department of Homeland Security's (DHS) Competition and Acquisition Excellence Award for "Use of Innovative Acquisition Practices By a Team." DHS Under Secretary for Management Elaine Duke presented the award in recognition for the team's enhancement of acquisition practices that utilized a high degree of resourcefulness and energy savings awareness. These initiatives brought the Landfill Gas Project from concept to reality. This was the first year for the DHS award's competition.

Traveling to Washington, D.C. to accept the award were (left to right): Rick Eschenbach, Yard Landfill Gas Project Manager; Danny Gore, Coast Guard Headquarters Office of Resource Management; Elaine Duke, DHS Under Secretary for Management; Pamela Komer, Coast Guard Civil Engineering Unit Cleveland; Jesse Maestas, URS, Inc., and CDR John Slaughter, Yard Facilities Engineer. Not present for the ceremony were team members: LCDR Ted Fowles, former Yard Legal Officer; Ed Rockenstire, Coast Guard Federal Design & Construction Center Pacific, and Craig Huswit, Department of Energy.

The Yard's Landfill Gas Project will utilize methane gas piped from a nearby Baltimore City landfill to produce electricity and steam for the shipyard for the next 15 years. The initiative is the largest renewable energy project in Coast Guard history and the first landfill gas co-generation plant in the State of Maryland. The Yard broke ground for the high-profile project in November 2007. Construction work is currently under way.

Marilla Waesche Pivonka, the ship's sponsor and granddaughter of the ship's namesake, Adm. Russell Randolph Waesche, accepts flowers from Caitlyn Dennis at the start of the USCGC WAESCHE christening ceremony at the Northrop Gruman Shipbuilding facility in Pascagoula, Miss, July 26, 2008. The WAESCHE is the second Coast Guard National Security Cutter to be christened. U.S. Coast Guard photo by Angelia M. Rorison.

National Security Cutter Program Reaches Latest Milestone; WAESCHE Christened

Courtesy of Deepwater News Flash

Coast Guard Commandant Thad Allen and Northrop Grumman Shipbuilding president Mike Petters look on as ship sponsor Marilla Waesche Pivonka breaks the bottle over the newly christened WAESCHE's bow on July 26, 2008.

Pascagoula, Miss. (July 28, 2008) – On Saturday, July 26, 2008 Marilla Waesche Pivonka, the sponsor and granddaughter of the ship's namesake, broke the traditional bottle of champagne over the bow, christening the second National Security Cutter (NSC) WAESCHE (WMSL 751) at the Northrop Grumman Shipbuilding facility in Pascagoula, Miss.

"Our nation, like many others, is a maritime nation with intricate transportation networks," said keynote speaker Air Force Gen. Victor E. Renuart, commander of North American Aerospace Defense Command and U.S. Northern Command. "The nation needs a greater awareness and effective understanding of this maritime activity. This National Security Cutter directly contributes to the Coast Guard's ability to achieve this maritime domain awareness and, in turn, this helps protect America."

WAESCHE is named for ADM Russell Randolph Waesche who led the Coast Guard from 1936 to 1946. He was the longest serving commandant and the first to achieve the rank of admiral. Several members of the Waesche family were present for the event, including Judith Waesche Romero and Jillian Waesche Seaton, Pivonka's sisters who served as matrons of honor.

"It was very poignant for me, personally, to stand and represent our grandfather and the Waesche family, we're so devoted to service to others," said Pivonka. "The ship to me means, symbolically and actually, a way of life preserving, search and rescue, environment studies, and protection on a personal, cultural, and international level."

Before breaking the bottle, Pivonka performed a song for an audience of over 1,000 people, honoring the Coast Guard, the shipbuilders, and her grandfather.

Mike Petters, Northrop Grumman Shipbuilding president; ADM Thad Allen, Coast Guard Commandant; and Paul Schneider, Deputy Secretary of Homeland Security; also addressed the audience.

"WAESCHE highlights the essential cooperation between the government and private industry," said Schneider. "WAESCHE is a tangible reflection of our commitment to protect national security and modernize the United States Coast Guard fleet."

WAESCHE is being built in Pascagoula, Miss. under contract to Integrated Coast Guard Systems (ICGS), a joint venture between Northrop Grumman and Lockheed Martin.

The NSC is a 418-foot ship with a 4,300-ton displacement at full load. Powered by a twin screw combined diesel and gas turbine propulsion plant, the NSC is designed to travel at 28 knots maximum speed. The cutter includes an aft launch and recovery area for two rigid hull inflatable boats, a flight deck to accommodate a range of manned and unmanned rotary wing aircrafts, and state-of-the-art command and control electronics.

"WAESCHE will sail with the most sophisticated electronics suite in Coast Guard history," said RDML Ronald Rábago, Coast Guard program executive officer and director of acquisition programs.

The first NSC, USCGC BERTHOLF (WMSL 750) was delivered to the Coast Guard on May 8, 2008 and arrived at its homeport in Alameda, Calif. on July 23, 2008. It was commissioned in Alameda on August 4, 2008.

The third NSC, STRATTON (WMSL 752) began production in Pascagoula on July 21, 2008.

WAESCHE is decorated for her Christening, July 26. The second NSC at that time was approximately 64 percent complete.

Deepwater C4ISR Equipment Powered Up On Board National Security Cutter WAESCHE

Courtesy of Deepwater News Flash

PASCAGOULA, Miss., September 29, 2008 – The Deepwater C4ISR team successfully powered up the first set of cabinets and consoles on board WAESCHE signifying Electronics Light-Off (ELO) of the second National Security Cutter. This is a major construction and testing milestone.

With Deepwater team members from the Coast Guard, Lockheed Martin and Northrop Grumman Shipbuilding looking on, six operation center consoles, the large screen display and the local area network (LAN) electronics cabinets were powered up marking the beginning of the NSC electronics test program. All 28 electronics cabinets, which constitute the core of the C4ISR system, were powered up.

"This date marks another important milestone in the production of NSC 2," said U.S. Coast Guard CDR Dustin Hamacher, NSC Program Manager's Representative. "Considering the numerous lessons learned in electronics testing of NSC 1, we look forward to the successful continued testing of the NSC 2 electronics suite."

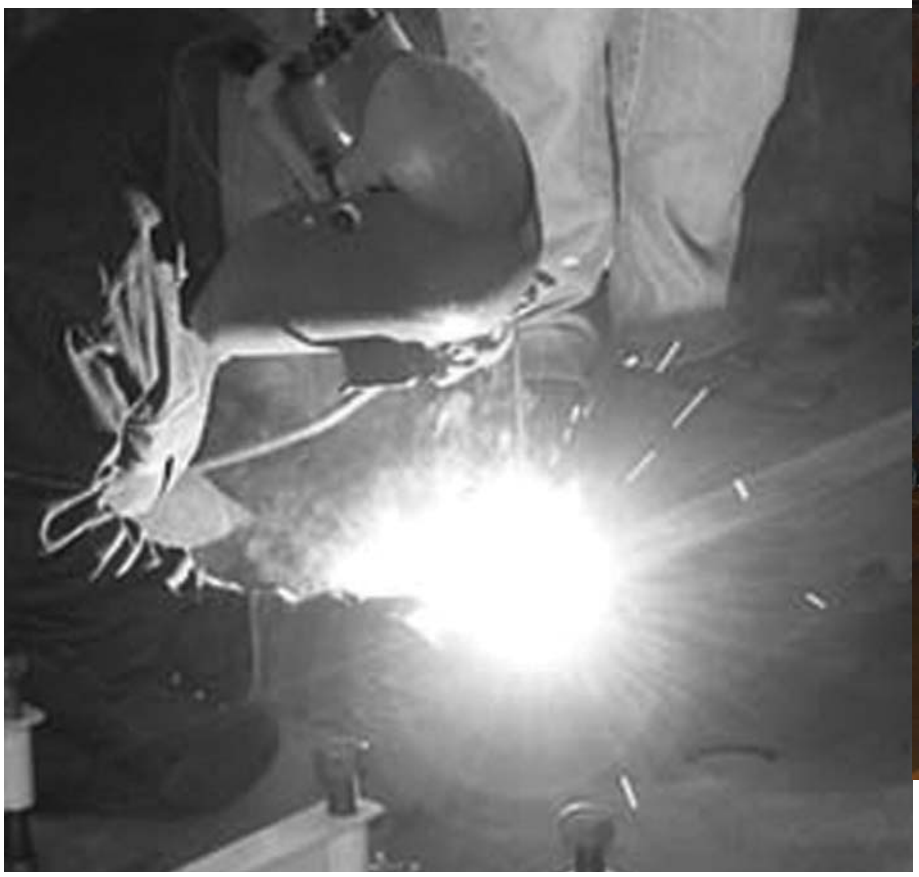
As of 29 Sept 2008 WAESCHE was 69% complete, and is scheduled to begin sea trials in the summer of 2009.

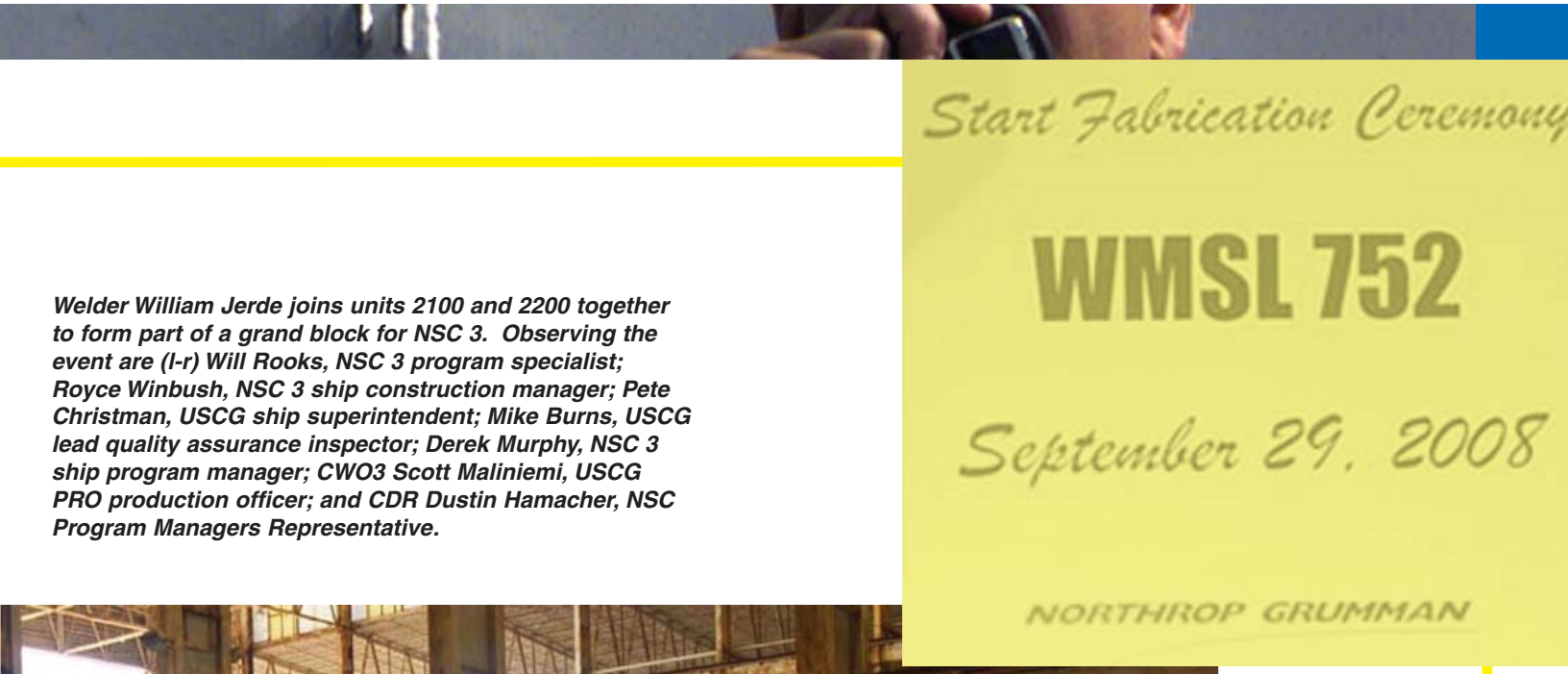
U.S. Coast Guard Chief Electronics Technician Matt Feeney initiates testing of the first electronics consoles on board WAESCHE. Looking on are: (l-r) Darrell Wilkerson, NG electrical foreman; Greg Stryzalka, LM C4 team; Grady Fountain, NG ship superintendent; and Bruce Schafhauser, LM C4ISR.

Start Fab Ceremony Marks Production Progress on Third National Security Cutter

Courtesy of Deepwater News Flash

PASCAGOULA, Miss, September 29, 2008 – The third National Security Cutter marked a significant milestone in the construction of a ship at Northrop Grumman Shipbuilding last Monday with the start fabrication ceremony. Start Fab typically is celebrated after the first 100 tons of steel are cut for a ship. Using the lessons learned from building the first two NSCs, this milestone for NSC 3 also highlights a ship more complete than NSC 2 at this stage due to improvements in the NSC build sequence. "The experience on the first two ships has allowed us to work more efficiently on this ship," said Will Rooks, NSC 3 program specialist.





Welder William Jerde joins units 2100 and 2200 together to form part of a grand block for NSC 3. Observing the event are (l-r) Will Rooks, NSC 3 program specialist; Royce Winbush, NSC 3 ship construction manager; Pete Christman, USCG ship superintendent; Mike Burns, USCG lead quality assurance inspector; Derek Murphy, NSC 3 ship program manager; CWO3 Scott Maliniemi, USCG PRO production officer; and CDR Dustin Hamacher, NSC Program Managers Representative.

New Upper Level College Credits for ALL CWOs

by CWO Rusty Huyck, CG-481
CWO Specialty Workforce Manager

As a result of the 26 September 2008 review by the American Council on Education (ACE) of the Coast Guard's CWO competencies, three additional Upper Level (UL) college credits have been recommended for all specialties. This outcome came after a year of careful planning by Engineering and C4IT Force Management (CG-481) and teams involving accomplished performers from the field, CG Institute, Education and Professional Development (CG-1324) and representatives from ACE. In this most recent effort, six CG Review Teams with 6-10 members were established to represent the following Specialties: AVI, ELC, ENG, F&S, ISM and MAT. The Review Teams were chartered to ensure all facets of a particular specialty were captured in preparing documents for the review process.

Past efforts to have CWO specialties evaluated by ACE for UL credits combined USCG with our USN (U.S. Navy) counterparts. Inconsistency among interviewee experiences created a larger effort for ACE to mitigate, resulting in contract modifications and a less than favorable outcome. Recognizing an opportunity for process improvement, the American Council on Education requested a task force to review the manner in which performance qualifications could be more appropriately captured while gaining a more comprehensive understanding of the managerial skills practiced by all CWOs.

The Task Force developed a solution to improve the whole interview process with the American Council on Education and the CG Institute -- the CG volunteered to participate by conducting a pilot program. The plan strategically used the competency review format being conducted simultaneously in CG-481, determining the Specialties World of Work (WOW) of CG Warrants and their core competencies. The review teams compiled specific examples of projects performed by Warrant Officers as well as competency lists, job descriptions, Officer Evaluation Report standards and training Task Performance Objectives. Each Program designated representatives that will act as a check and balance for the interview process to validate Warrant Officer managerial skill sets in their respective occupations.

The ACE review panel of 12, consisted of doctorate level educators, representing colleges or academic experts in the occupational field being evaluated. The Coast Guard team was represented by three two-person teams from CWO specialties of AVI, MAT and ISM, three Program representatives and the CWO Specialty Force Manager. The review resulted in a total of 18 UL credits for the three specialties, with AVIs experiences helping to support an increase of three credits for all CWO specialties. ISMs increased by nine credits (including the three credits for all specialties) and MATs increased by six credits (including the three credits for all specialties). Again, this included an increase in over all UL college course credits for CG Warrants. The new accreditation will affect the specialties for a period of 10 years.

For those interested, comparisons between the old standard and the new can be reviewed on the website: www.militaryguides.acenet.edu.

Our service was well represented by the volunteer team members that provided meticulous documentation, painstakingly reviewed each submittal for clarity and conciseness, and packaged and coordinated the review meeting with prompt and professional efficiency. The ACE representatives provided significant praise on the quality of the documentation and the professionalism of the USCG Team. The hope is to repeat the process in a second review in January 2009, when ELC, ENG and F&S will undergo ACE accreditation review. We look forward to sharing this successful model with other Uniformed Services.

"CGA Mechanical Engineering Interns Mark Fourth Year at ALC"

by Patrick J. Dwyer, ALC

For four years Coast Guard Academy (CGA) Mechanical Engineering cadets have spent five weeks during their final summer working side by side with engineers and mechanics at the Coast Guard Aviation Logistics Center (ALC) in Elizabeth City, NC, solving real world fleet problems. Internships at the ALC provide cadets with hands on engineering experience in actual Coast Guard applications which they could not otherwise attain. Many of the cadets return to the Academy to continue their research within specific academic classes as well as more intense semester long projects. Most cadets who spend their internship at ALC continue on to a career in aviation after graduation, though non-aviators have equally benefited from the program.

The ALC's mission is to provide air stations with depot level maintenance, engineering, supply and information services to support Coast Guard missions. It employs over 1,400 military, civilian, contractor and high school apprentice personnel with an annual operating budget of approximately $250M. ALC's diverse workforce has seen considerable growth over the last decade to support over 200 aircraft. A vital addition at the ALC was the development of the Aging Aircraft Branch (AAB) in 2001. With the Branch's simplistic and yet highly complex mission statement to "extend the life of its assets" it is striving to achieve its complementary mission through a holistic engineering approach integrating the disciplines of structures, corrosion, wiring, non-destructive inspection, vibrations and reliability centered maintenance. Many of these disciplines however are supported by a limited number of personnel, some only one man deep and in order to further develop and enhance these programs, the AAB frequently looks to the other services, government agencies and academia. It was this last resource, academia, which spawned the idea to not only use the institutions chartered by the Joint Council of Aging Aircraft (JCAA) but also to look to our own institution of engineering excellence, the United States Coast Guard Academy. The JCAA, a consortium of partners from DOD (Department of Defense), FAA (Federal Aviation Administration), NASA (National Aeronautics and Space Administration) and USCG undertook the initial development of the Academic Center for Aging Aircraft (ACAA) comprised of Texas A&M, University of Dayton Research Institute and Georgia Tech Research Institute as a means to support the initiatives of the JCAA. That maturation over the past six years has shown how cooperative efforts with some of the nation's top academic institutions specializing in multi-disciplinary engineering fields can be leveraged to solve today's aging aircraft challenges. As an active member of the JCAA, the Aging Aircraft Branch at ALC recognized that to address specific USCG challenges, and more importantly, to expose future aviators and USCG aeronautical engineers to our own issues, a partnership with the Academy was a natural and necessary extension.

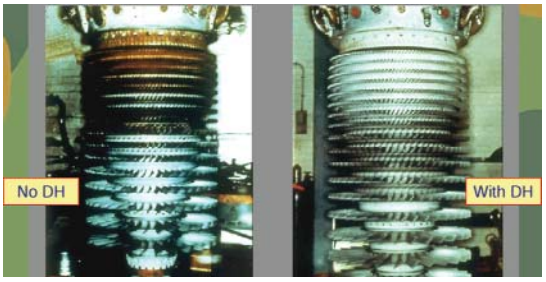
The internship program actually had some initial beginnings back in 2001 with one cadet (1/c Cadet Travis Gracewski) being assigned to the Aging Aircraft Branch to develop a corrosion severity assessment program. Since that initial effort and annual interest by the Academy to send First Class Cadets to ALC, the AAB has significantly benefited from cadets each summer dedicated to specific five week programs. Through a growing collaboration between Captain Vincent Wilczynski at the Academy and the Command at ALC, each year two to four qualified Mechanical Engineering cadets compete for these hands on internships. If accepted, cadets spend five weeks conducting research in one of the ALC's primary engineering focus areas cul-

minating in a final out briefing with the Commanding Officer at ALC. Cadets also receive orientation flights, tour local air stations, and visit government as well as industry aviation engineering facilities throughout the country. More importantly, the cadets will end their internship knowing that they made a significant impact in assisting the AAB resolve real world aeronautical engineering issues and ideally, to really begin building on their internship experience when they return to the Academy for their senior year.

This past summer First Class Cadet Chrisy Chantarasopak worked on a Friction Stir Welding (FSW) project (see below) with the AAB's Materials Engineer and had an opportunity to tour Lockheed Martin's Michoud Operations in New Orleans, LA, home of where NASA's space shuttle external fuel tank is friction stir welded and assembled. Exploring this developing technology of FSW may one day become a standard manufacturing process of assembling aircraft and vessels without using traditional fastener hardware, thus minimizing corrosion.

1/C Cadet Chantarasopak at the Lockheed Martin Michoud Operations in New Orleans, LA site of the assembly of the Space Shuttle External Fuel Tank through a process called Friction Stir Welding. The mandrel in the photograph to the right is "welding" two pieces of aluminum material together without actual melting the material. To learn more about FSW see: http://www.msm.cam.ac.uk/phase-trans/2003/FSW/aaa.html

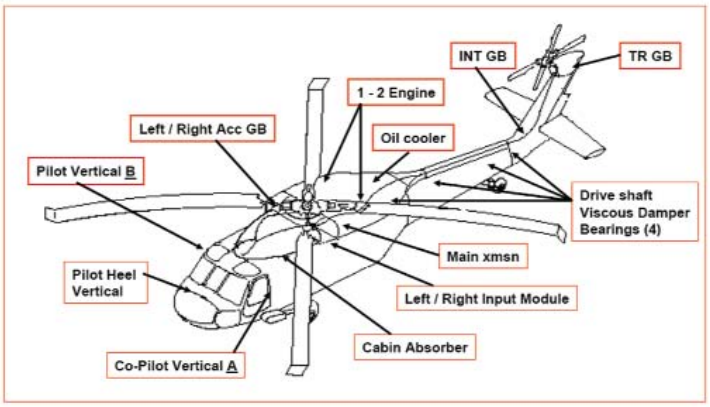
First Cadet Ryan McCue designed a closed loop system for aircraft dehumidification building on past cadet dehumidification projects in support of the USCG Corrosion Program Manager and H65 Product Line. To understand the scope of his project, he traveled to Ft. Worth, TX, and met with the onsite USCG engineering technical representative accompanied by AAB's Corrosion Preventative Advocate to address specific corrosion related issues with the new Arriel Turbomeca 2C2CG engines installed on the "Charlie" model HH-65C helicopters.



Dehumidification of HH65 Turbomeca Arriel Engines as developed by 1/C Cadet McCue with potential results attainable such as those shown on the far right of a RAAF H60 helicopter DH'ed engine.

During the visit he had the opportunity to tour the American Eurocopter manufacturing plant and the Turbomeca engineering plant in Fort Worth. In addition, he also submitted a letter to the editor which was accepted and published describing his internship project in the aerospace publication, Aircraft Maintenance Technology.

First Cadet Walter Fredenhagen worked on a structural Health Usage Monitoring (HUMs) project for the HH-60J with AAB's Aircraft Structural Integrity Program Manager and with AAB's Vibration Lab personnel. Cadet Fredenhagen traveled to Huntsville, AL, and met with subject matter experts from the Army Aviation Missile Research and Development Center. Following the meetings he participated in helping design the necessary infrastructure and source selection specifications for the HUMs system.



1/C Fredenhagen tackled Health Usage Monitoring or HUMs for the H60, a tool in supporting aviation assets.

All three cadets also visited the world renowned test and research facilities at NASA/Langley and toured NASA's transonic wind tunnel where future aerospace platforms are tested in their early design phase. The cadets were given a first look at NASA's plans to return to the moon and beyond to Mars with the habitats being designed and tested at NASA/Langley as well as emerging technology in the fields of structures, wiring and non-destructive inspection. NASA/Langley facilities and resources are frequently utilized by the AAB in supporting component failure analysis as well as supporting aviation mishap board investigation teams.

The internship program has a long history of successful projects. In 2007 Cadet Caleb Robards investigated the Nose Box Frame Absorber for the new MH60T. The absorber was later outfitted on all MH60T conversions at a cost of approximately $1.3 million with significant reductions in maintenance man-hours. Cadet Robards also wrote the Maintenance Procedural Card (MPC) for dynamically balancing the new HC-144, CASA propeller, after learning how to use the Helitune Rotor Track and Balance Equipment used by actual aircrewmen in the field. That same year Cadet Jenny Fields developed an algorithm for predicting the amount of corrosion an aircraft experiences over a lifetime at a particular station. Those algorithms are being used today to better help predict the condition of aircraft in the field to work towards a model for optimizing depot induction intervals. Cadet David Moser that same summer expanded on previous AAB and cadet intern efforts and pulled together key dehumidification (DH) metrics in support of a study funded by the Office of the Secretary of Defense (OSD). His final out briefing and findings has led to a fleet wide implementation program to introduce dehumidification as a necessary preventative maintenance ground support tool to sustain aviation assets. The projected Return On Investment (ROI) for DH is greater than 8:1 with some government reports showing ROIs approaching 40:1 with applications far beyond just aviation.

In 2006, Cadet Bret Nichols worked on updating the ALMIS Architecture which had a significant impact on the logistics transformation taking place throughout the Coast Guard, particularly in the stand up of the Response Boat - Small (RB-S) Product Line. Cadets Lake, Mann and Murphy collaborated over a ten week period with the AAB Vibration Lab in developing a Jet Engine Monitoring System (JEMS) for the new Turbomeca Arriel engines that are installed on all the HH65s. The timing couldn't have been better for this new system as cadets and members of the Vibe Lab were able to utilize the equipment to assist in the analysis of an engine failure that occurred immediately after installation at Atlantic City. That same year Cadet Lake took part in an investigation into aircraft dehumidification which led to a full semester

long senior Design Capstone Project for one team of Mechanical Engineers. Cadets modified and tested a HH-65 dehumidification unit which was later implemented on the entire fleet and received high praises from then Assistant Commandant for Systems, RADM Gabel, who was in attendance at the Academy for the final projects that were briefed and displayed.

The program continues to receive high praise from participants and attracts some of the Academy's best Mechanical Engineers. In addition to those listed, past "pioneering" interns include Dan Cathell and Travis Gracewski. Several of the cadets hosted by the ALC have already been assigned to flight school and many plan to apply for their next assignment. After returning from the program one intern reported, "My experience at ARSC has deepened my knowledge and understanding of CG Aviation and has thus changed my career pursuits to include Aviation Engineering." The real value gained is the experience and practicable application of engineering disciplines built from an academic foundation that ideally will produce a corps of multi-disciplined engineers better prepared to tackle the challenges of a 21st Century USCG.

Then 1/c Cadet Robards collecting propeller vibration data aboard a USCG HC-144 "CASA" Maritime Patrol Aircraft. Ens Robards is currently assigned to USCGC FORWARD stationed in Portsmouth, VA.

Those interested in learning more about the internship program may contact LCDR Michael Plumley at the Coast Guard Academy. For more information on ALC visit: http://www.uscg.mil/hq/arsc/.

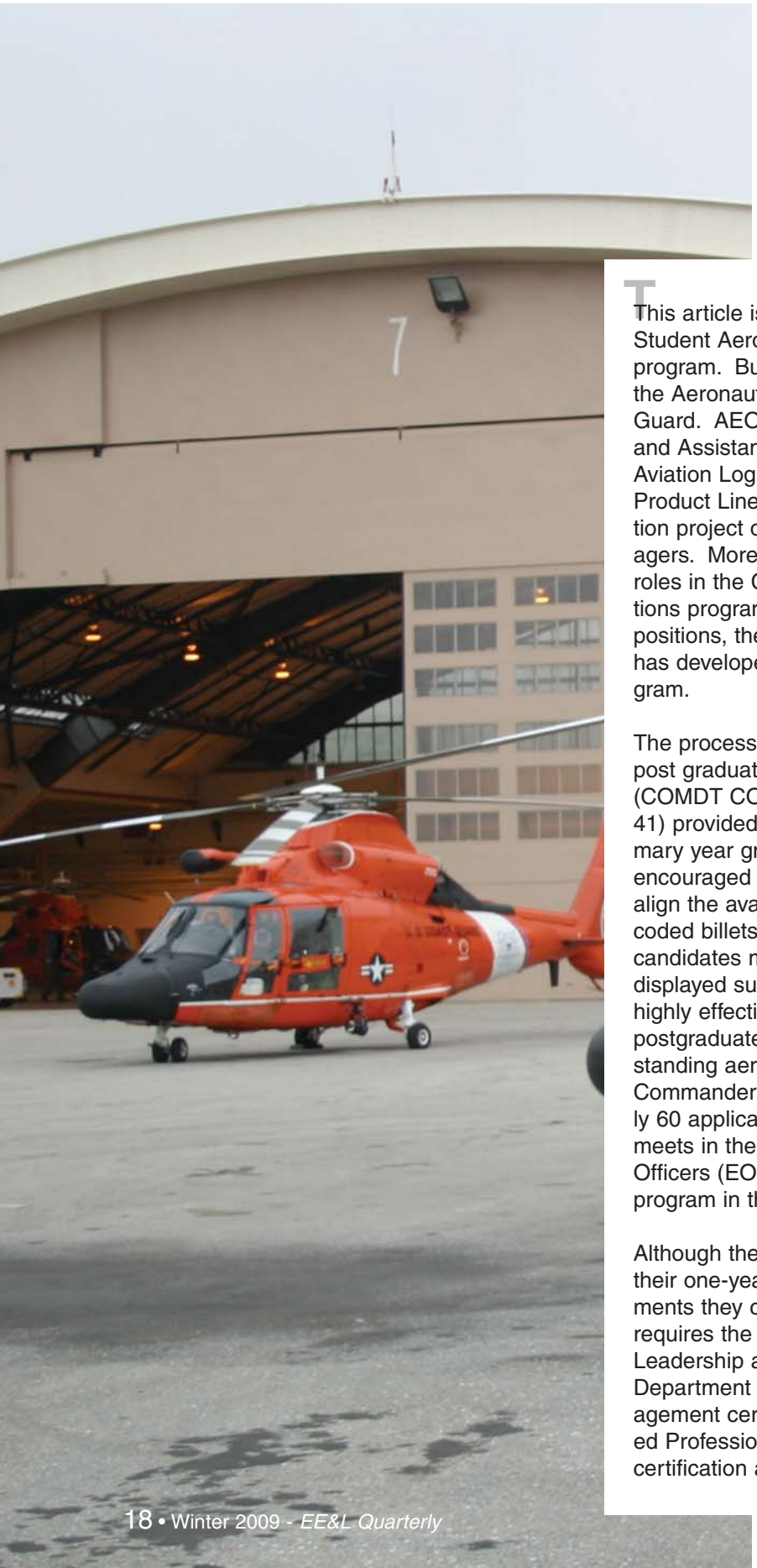
Author
Commander (Retired) Patrick Dwyer is a 1984 honors graduate of the US Coast Guard Academy and received his Masters Degree in Aeronautical Engineering from Rensselaer Polytechnic Institute in 1997. After serving as an aeronautical engineer in the Coast Guard for 20 years and amassing nearly 4000 cumulative flight hours in both the HH-65 and HC-130 he retired in 2004. Mr. Dwyer now serves as a civilian contractor with Command Decisions Systems and Solutions at the Aviation Logistics Center in Elizabeth City, NC as the Coast Guard's Aircraft Structural Integrity Program Manager within the Aging Aircraft Branch.

The author wishes to acknowledge the support of his fellow colleagues in the Coast Guard Aging Aircraft Branch and LCDR Mike Plumley (USCGA) for his contributions to this article. Without their tireless efforts, vision, dedication and energy in supporting the internship program on behalf of the Commands at ALC and the USCGA the program would not have achieved the success it has over the years.

Footnote: The Aircraft Repair and Supply Center (ARSC) officially became the USCG Aviation Logistics Center (ALC) at the end of October 2008.

Aeronautical Engineering Training Program

by CDR Jack Newby, CG-41d



This article is intended to shed some light on the Coast Guard Student Aeronautical Engineering Officer selection and training program. But first, let me give some examples of the roles that the Aeronautical Engineering Officer (AEO) fills in the Coast Guard. AEOs are assigned as the operational unit Engineering and Assistant Engineering Officers. They fill all positions at the Aviation Logistics Center (ALC) including Command staff, Product Line Managers, aircraft technical authorities, modernization project officers, logisticians and information systems managers. More recently, AEOs have been assigned leadership roles in the Coast Guard's logistics transformation and acquisitions programs. In order to provide the best people for these positions, the Aeronautical Engineering Program office (CG-41) has developed and refined the "student engineer" training program.

The process begins with a solicitation message similar to other post graduate programs. The most recent solicitation message (COMDT COGARD WASHINGTON DC 161233Z APR 08 //CG-41) provided guidance on the application procedure and the primary year groups. Although all aviation rated officers are encouraged to apply, there are primary year groups that help align the available pool of AEOs with the limited number of AEO coded billets as the officers progress through their careers. The candidates most competitive for selection are those who have displayed sustained high levels of performance, demonstrated highly effective leadership skills and show strong potential for postgraduate training. Candidates should also demonstrate outstanding aeronautical skills, but designation as an Aircraft Commander is not required for selection. Typically, approximately 60 applicants compete for 12 positions. The selection panel meets in the summer, which means the student Engineering Officers (EO) selected in 2008 will begin their one-year training program in the fall of 2009.

Although the students have a year before they officially begin their one-year student EO training syllabus, there are requirements they can complete independently. The EO designation requires the officer to complete three programs: the Coast Guard Leadership and Management (LAM) course; the CG-4 directed Department of Homeland Security (DHS) level 1 program management certification (ALCOAST 468/08); and the CG-41 directed Professional Military Education (PME). Both the DHS level I certification and PME are Defense Acquisition University (DAU)

on-line courses that prepare the student for project management and Contracting Officer Technical Representative responsibilities.

The one-year syllabus developed and administered by CG-41 is designed to familiarize the student with the Aeronautical Engineering processes and functions defined in the *Aeronautical Engineering Maintenance Management Manual, COMDTINST 13020.1F*, and associated process guides. The students will complete the syllabus at their assigned Air Station, under the guidance of the Aeronautical Engineering Officer. Most of the training is accomplished through On-The-Job training (OJT) as the students perform the various roles and responsibilities within the units Engineering Department, but they will also attend resident training at CG-41, ALC and several short courses.

The students visit Coast Guard Headquarters (HQ) for a week-long familiarization to begin their one-year syllabus. During the week, they meet with CGPC officer and enlisted detailers where the main focus is enlisted workforce issues. CG-711 meets with the students to discuss the complementary roles the unit's operations officer and engineering officer play in the success of the organization. They receive briefs from CG-931 aircraft acquisition program managers, resource/budget officers, and each of the CG-41 aircraft platform managers. The most recent class also received leadership and career advice from AEO designated officers such as RDML Ostebo (CG-4), RDML Ray and RDML Taylor (CG-8). The highlight of their visit came when ADM Allen addressed the students about his vision of the Coast Guard's modernization and invited questions.

Following the HQ visit the students travel to Elizabeth City, NC for a week long introduction to the ALC capabilities and support functions. At ALC they will meet with the military and civilian leaders of each division that include the individual aircraft product lines, the engineering support, aviation logistics, information systems and business development. Throughout the week, the students will interact with the people that provide the aircraft technical assistance, inventory management and depot level support processes that they will rely upon to succeed as EOs. The students also visit the Aviation Technical Training Center (ATTC) to learn about ATTC,s capabilities and enlisted training issues.

Their initial two weeks is also designed to bring the student together as team members. As part of their training, the students are required to complete a class project. The class that finished last summer developed an improved Logistics Compliance Inspection (LCI) process guide. The goal of the class project is twofold: improve a process and build professional relationships. These officers will be required to work together as unit EOs; ALC Division Chiefs and CG-41 program managers throughout their careers.

The OJT part of the syllabus exposes the student to a wide range of Engineering Officer duties. Throughout the year the students will rotate between six major jobs. They are: Department Head; Quality Assurance Officer; Engineering Administration Officer; Aviation Materiel Officer; Aircraft Maintenance Officer; and Avionics Officer. In each case, the syllabus provides references that prepare the student for their new role, discussion items that the student and a subject matter expert can use as a training roadmap, and tasks the student must complete prior to the EO signing off that portion of the syllabus.

The resident courses include a second visit to ALC, the U.S. Air Force Jet Engine Accident Investigation training and a corrosion control class. The students are scheduled individually for the resident courses. The second visit to ALC exposes them to more in-depth engineering and process training. They work closely with their respective airframe product lines to better understand the logistics programs and thoroughness of the aircraft Programmed Depot Maintenance (PDM) as they usually have an opportunity to perform post-PDM test flights with the pilots assigned to ALC.

Completion of the syllabus, the EO recommendation, and the Commanding Officer's endorsement result in the member being designated as an "Aeronautical Engineer," and provides a CG-ENG-15 Officer Specialty assignment. Their first assignment as an Aeronautical Engineer will typically be as an operational unit aircraft Assistant Engineering Officer. CG-41 monitors and mentors the career progression of every designated Aero Engineer, from selection and training as a student through assignment as O6 level command and staff. Almost every designated aero engineer remains active within the program until the senior O5 level; at which point they become very competitive for Air Station XO or CO. The program also advocates and sponsors out of specialty rotations in key staff assignments such as CG-931, CG-82 program reviewers, Congressional Affairs and other Specialty assignments.

The HC-130H Hercules:

Recent Developments in Forecasting the Safe Operational Service Life

by LCDR Randy Hartnett
ALC C-130PL Engineering Cell Leader

(U.S. Coast Guard photo by Lt. Cmdr. C. T. O'Neil

The safe useful life of the C-130 wing structure was called into question in 2002 following the highly publicized Center Wing Box (CWB) failure on a retrofitted C-130 fire tanker, shown in Figure 1. At approximately the same time, the USAF (U.S. Air Force) was finding fatigue cracks in the CWB structure earlier than predicted by previous modeling efforts. The mishap and crack findings were particularly concerning given that Lockheed Martin, the Original Equipment Manufacturer (OEM), had never established a life limit for any of the major structure since the first production model rolled off the factory floor more than 50 years ago. None of the original aircraft ever underwent a full scale fatigue test, as is common for most modern military aircraft and required for FAA (Federal Aviation Administration) type certified commercial aircraft. Even if they had, most of the commonly accepted fatigue laws were discovered in the late 1960's, well after the first C-130 test flight in August, 1954, shown in Figure 2.

Figure 1. Shown on the evening news, this retrofitted C-130A, built in 1957, suffered a CWB failure just after dispensing fire retardant on an active CA wildfire near Walker, CA in 2002. It's worth noting that this aircraft was retired by the USAF in 1978, spent 10 years in storage in the Arizona dessert, and then was pressed into one of the most structurally severe missions ever undertaken by a C-130. There was no Depot Level NDI inspection program completed prior to assuming this mission after being resurrected from retirement in the desert.

The amazing utility of the venerable C-130, combined with the expense of replacing it, has motivated continued aircraft operation with no plans for retirement. In an effort to ensure safety as operators continued to push the life envelope, the OEM and USAF undertook an extensive study to determine the safe operating life of the controlling CWB structure and published results in 2005. While one would expect this to be welcome news, it actually created a crisis for most world operators as they discovered their fleet was "older" and closer to the new life limits than previously thought.

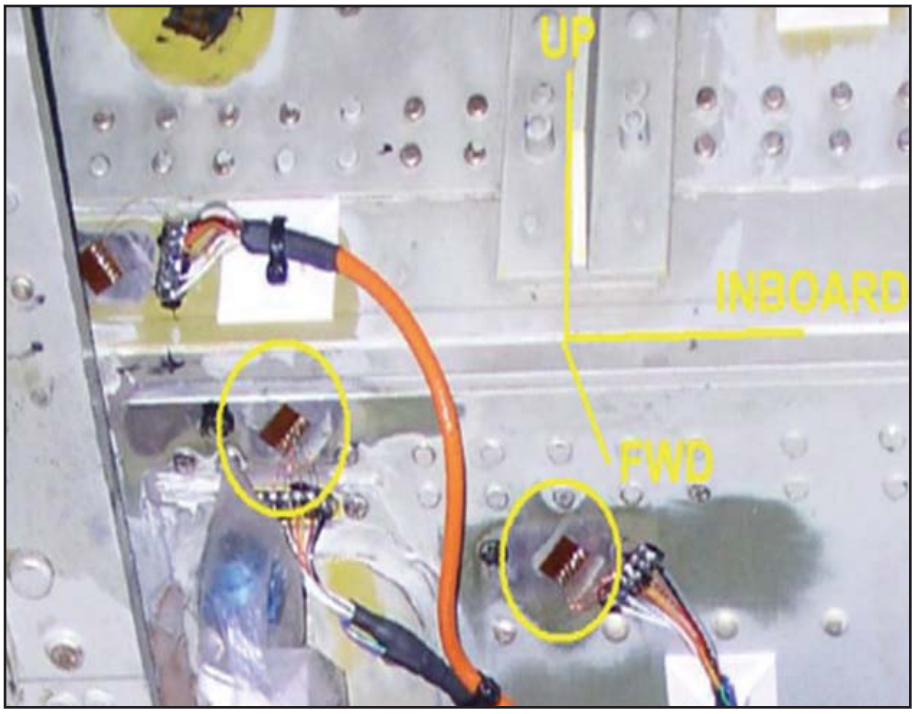
Given that the USAF helped sponsor much of the study, the new CWB life limit was defined in terms of USAF Equivalent Baseline Hours (EBH). EBH for any given flight is calculated by multiplying the flight hours times the mission severity factor. Since the USAF had already been measuring fatigue life in EBH, they were able to quickly assess the age of their fleet. This resulted in the permanent grounding of their "oldest" 30 C-130s, and flight restrictions were placed on an additional 60. Most other operators, including the USCG, were not measuring fatigue life in EBH and were thus forced to convert to the USAF EBH scale in order to observe the new life limit. This initial conversion process was coarse and understandably conservative, however, many were naturally shocked to see the fatigue age of the HC-130H nearly double overnight and close to the new life limit of 45K EBH. Additionally, the OEM recommended flight restrictions for any aircraft over 38K EBH until a comprehensive inspection could be completed on the CWB. This prompted the CG to follow the USAF lead and required flight restrictions for the oldest 1500 series aircraft, outlined in OPSUP 69. Employing a temperature scale analogy, the CG was measuring fatigue life in degrees Celsius, thinking it was on the Fahrenheit scale, and was only now learning that water boiled at 100C vice 212C.

The Aviation Logistics Center (ALC) C-130PL recently completed an intensive effort to more accurately determine the accumulated fatigue age on the HC-130H fleet in terms of EBH, enabling a more precise forecasting of the remaining operational service life.

The C-130PL Engineering Cell began with a careful review of algorithms used by the OEM to establish the existing fatigue "age" of each aircraft's CWB. After noting

Figure 2. A legend begins as the first test flight of YC-130 lifts off on 23 August 1954.

Figure 3. (Top) The CWB data recorder was installed on CG1707 in 2005 in cooperation with the US Air Force Academy's Center for Aircraft Structural Life Extension (CASTLE). The photo below shows the mounting for some of the strain gauges.



problems with the environmental spectra input parameter, the C-130PL capitalized on an ongoing partnership with the Center for Aircraft Structural Life Extension (CASTLE) at the U.S. Air Force Academy to get actual data to feed the fatigue model. This initiative involved instrumenting a CG CWB (CGNR 1707) with strain gauges, vertical accelerometer (Nz) and recording device to capture these readings as well as airspeed, altitude and position vs. time at 32 Hz. The CWB data recorder and sample raw data plot are shown in Figures 3 and 4 respectively. Over 1,500 flight hours worth of data was collected over a two year period while flying routine CG missions out of Air Stations Kodiak and Clearwater. This data was used to develop a customized environmental spectrum that better reflected CG operating conditions and provided a more realistic input to the modeling algorithm, particularly when compared with the previously utilized USAF spectrum. In fact, the resulting environmental spectrum analysis revealed that the typical over water operating environment was much less severe than previously thought.

As an example, Figure 5 shows a summary of vertical acceleration (Nz) recorded at Air Station Clearwater during high speed, low level flight, which is responsible for over 80% of fatigue in the wing. The OEM possesses proprietary stress transfer functions that convert recorded Nz to actual stress experienced at given points along the wing, enabling use of commonly accepted crack growth algorithms. Given that most fatigue takes place at around 0.25 incremental Nz cyclic loading (1.25G actual), the graph shows that this actually occurred approximately 3 times per hour vs. the 15 times per hour that had previously been modeled. Thus, for this particular flight segment, nearly five times the fatigue would have been accumulated versus that actually flown. Since most CG operational flights involve significant time flown low over the water, C-130PL engineering pursued further analysis to rebaseline the fatigue age of each airframe's CWB from time zero (original delivery) to the present.

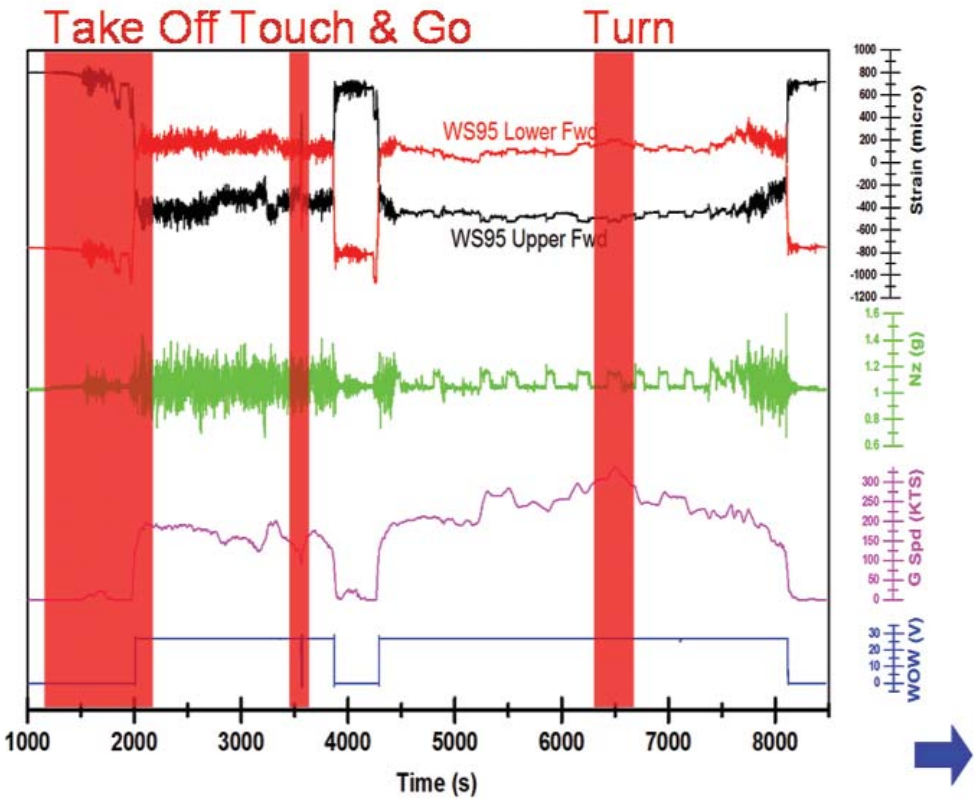


Figure 4. CWB Data Recorder raw data plot; note that the lower surface of the CWB transitions from compression to tension at lift off.

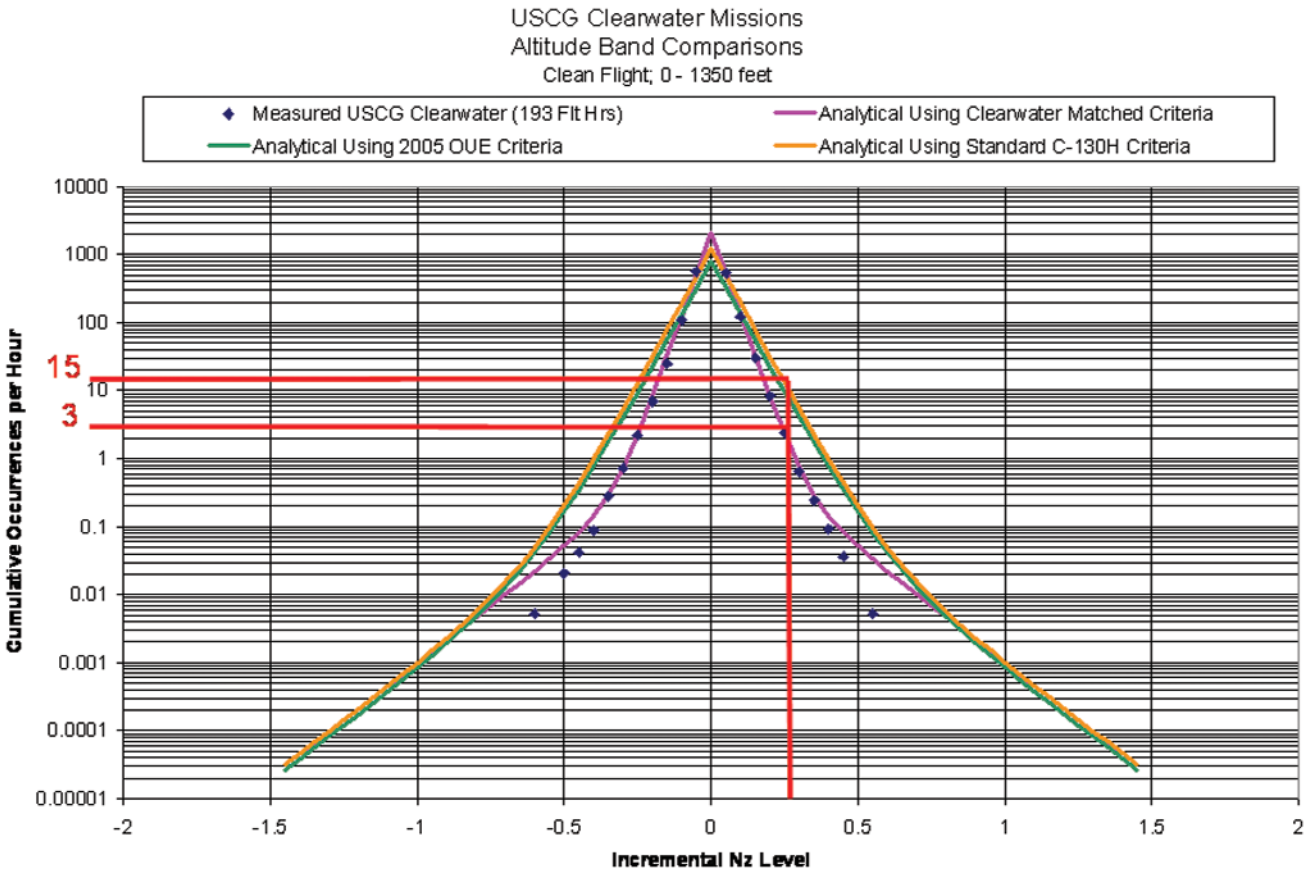


Figure 5. This is a plot of analyzed vertical acceleration data taken from 1707's CWB data recorder. The magenta line represents the actual data from Clearwater at this altitude (193 flight hours total in this band). The green line shows the assumed analytical environmental spectrum profile previously used to age CG C-130Hs. Given that most fatigue happens at approx 1.25G cyclic loading (0.25 incremental), the assumed model would have calculated approximately five times more fatigue cycles than that actually flown.

The C-130PL employed the OEM to rerun the four previous operational usage evaluations from 1985, 1994, 1997 and 2005 against this new USCG customized environmental spectrum in order to rebaseline the accumulated fatigue life for each aircraft in the fleet. The results revealed that the fleet as a whole was 11% "younger" than previously thought. However, most aircraft were up to 20% younger, while a few were older based upon significant time spent at Air Station Kodiak, which was determined to have a slightly more severe operating environment. Figure 6 reveals a side by side comparison of previous vs. rebaselined age for each CWB as of July 2008.

The aforementioned CWB service life limits were derived from extensive engineering analysis largely based on Mil Standard 1530C. This methodology calls for a probabilistic determination of when a structure is likely to fail due to repeated cyclic loading. Older structures subject to this loading are particularly vulnerable to a phenomena commonly referred to as Widespread Fatigue Damage (WFD), which basically refers to the development of numerous smaller cracks that have the potential to join up and form one larger crack that would result in structural failure. When the Single Flight Probability of Failure (SFPOF) reaches 1x10-7, or one in ten million, Mil Standard 1530C requires that action be taken to reduce SFPOF. As shown in Figure 7, CG C-130s (between the green and red lines) are likely to reach a SFPOF of 1x10-7 at approximately 38K EBH. This graph also shows that an OEM designed WFD inspection reduces SFPOF and guarantees operation below the SFPOF limit through the ultimate life of 45K EBH. However, engineering analysis has shown that the "onset" of WFD is likely to occur at 45K EBH in any case, invalidating safety by inspection beyond this point. Thus, the ultimate life of a C-130 CWB is limited to 45K EBH regardless of further inspection or imposition of flight restrictions.

In addition to providing a new "age" of each aircraft's CWB, the rebaslining effort also yielded new severity factors for each air station which were also reduced. Thus, not only did the overall fleet age get reduced, but the rate at which subsequent EBH is accumulated is also reduced. Armed with the most accurate accumulated CWB age ever established for the CG, and an equally precise means of calculating EBH as aircraft are subsequently flown, the C-130PL is best positioned to predict the remaining operational service life of the HC-130H relative to the newly established limits derived from Mil Standard 1530C.

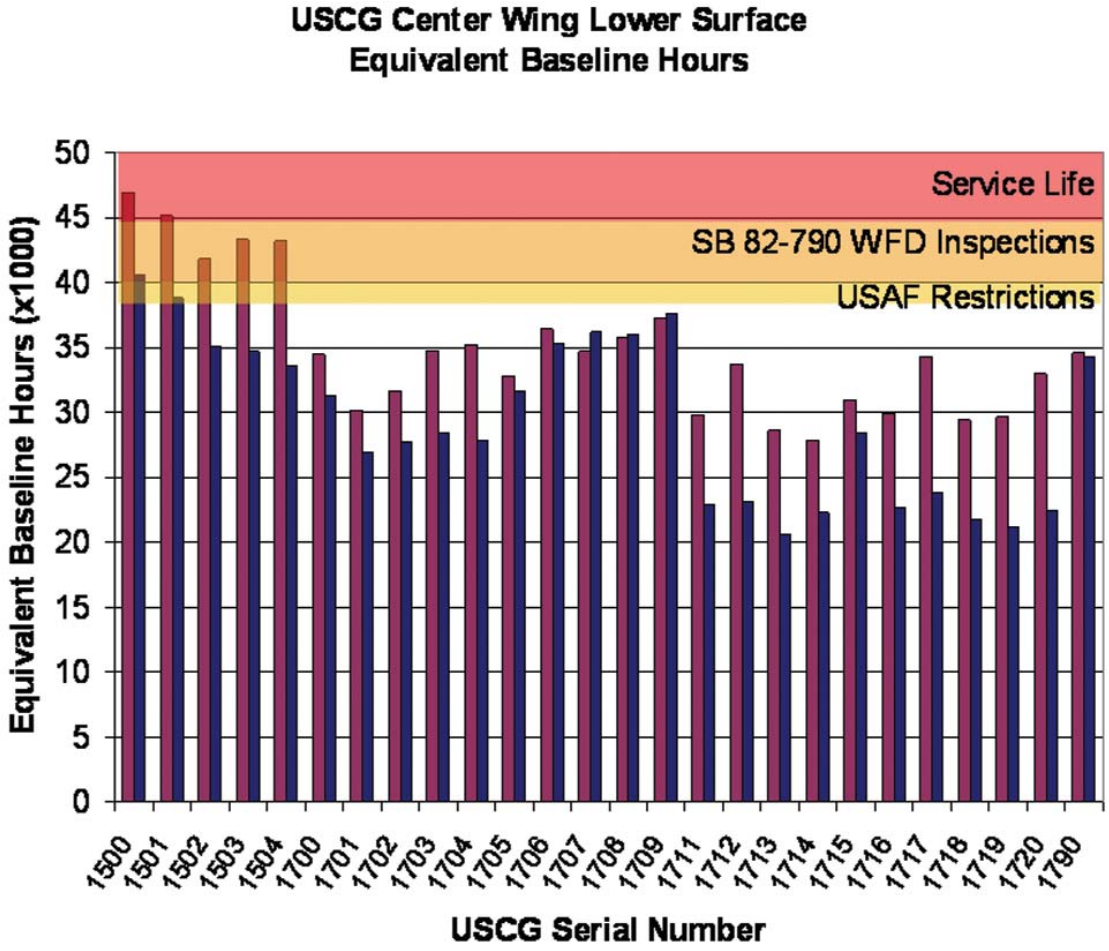


Figure 6. Comparison of individual airframe fatigue age, measured in Equivalent Baseline Hours (EBH), before and after the CWB rebaslining effort.

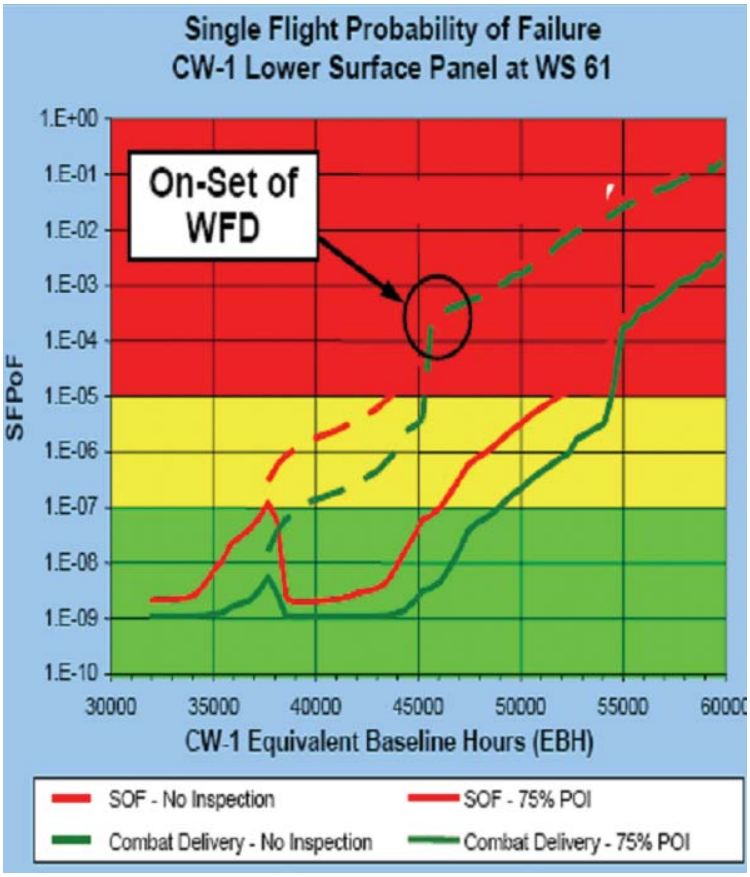


Figure 7. This plot summarizes the results of an extensive engineering study by the OEM/USAF to determine the safe operational service life of the C-130 CWB. Note that the caution region is reached at 38K EBH, and the Do Not Exceed (DNE) time of 45K EBH results in grounding the aircraft until the CWB can be replaced.

Figure 8 forecasts the number of unrestricted HC-130H aircraft available for future use assuming that no CWB sustainment programs, such as WFD inspections or refurbishment/replacement, are pursued. Here we see that even with an 11% reduction in fleet age post rebaslining, only about three additional operational years are gained until CWB life limits reduce the unrestricted fleet to 16 aircraft, which is the Deepwater minimum after 2016. While this may not seem like much time, it's allowing critical strategic planning for structural sustainment. For example, there is a five year lead time to purchase a new CWB from the OEM and you must pay today in order to keep your place in an ever growing line. The final structural sustainment plan will likely consist of a combination of new and/or refurbished CWBs, as well as a number of WFD inspections for timing and sequencing purposes. The C-130PL is working with key partners in CG-41, 711, 931 and 1131 to develop these strategic and tactical sustainment plans. Although essential, there's more to a Herc than structure, and addressing other key aging systems will likely provide a business case to procure more C-130Js sooner than later. The HC-130H CWB rebaslining initiative bought the C-130 program time to effectively and responsibly plan its retirement, and now it's time for its younger, more nimble J-Model offspring to take the Watch.

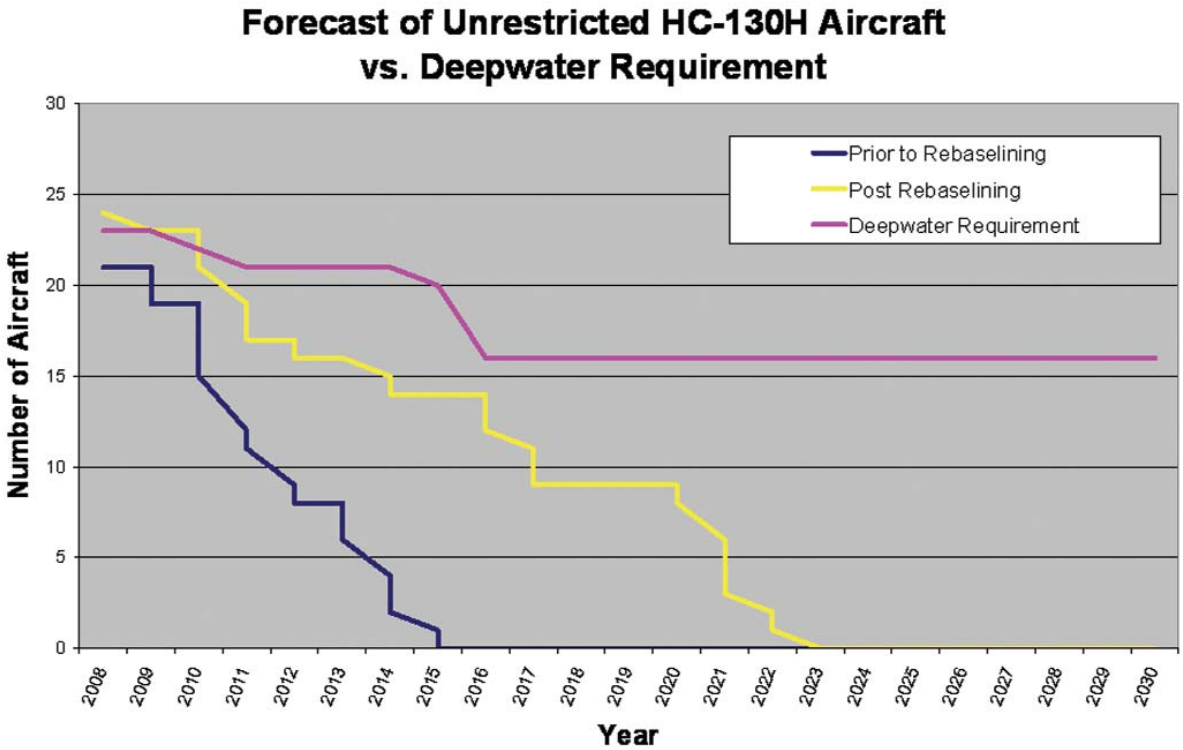


Figure 8. Forecast of available aircraft over time. The yellow line represents the increase in useful life as a result of the CWB rebaselining effort. However, even with this increase, the Deepwater mandate of 16 unrestricted aircraft past 2016 can not be sustained without a comprehensive structural sustainment initiative consisting of new/refurbished CWBs and WFD inspections where needed.

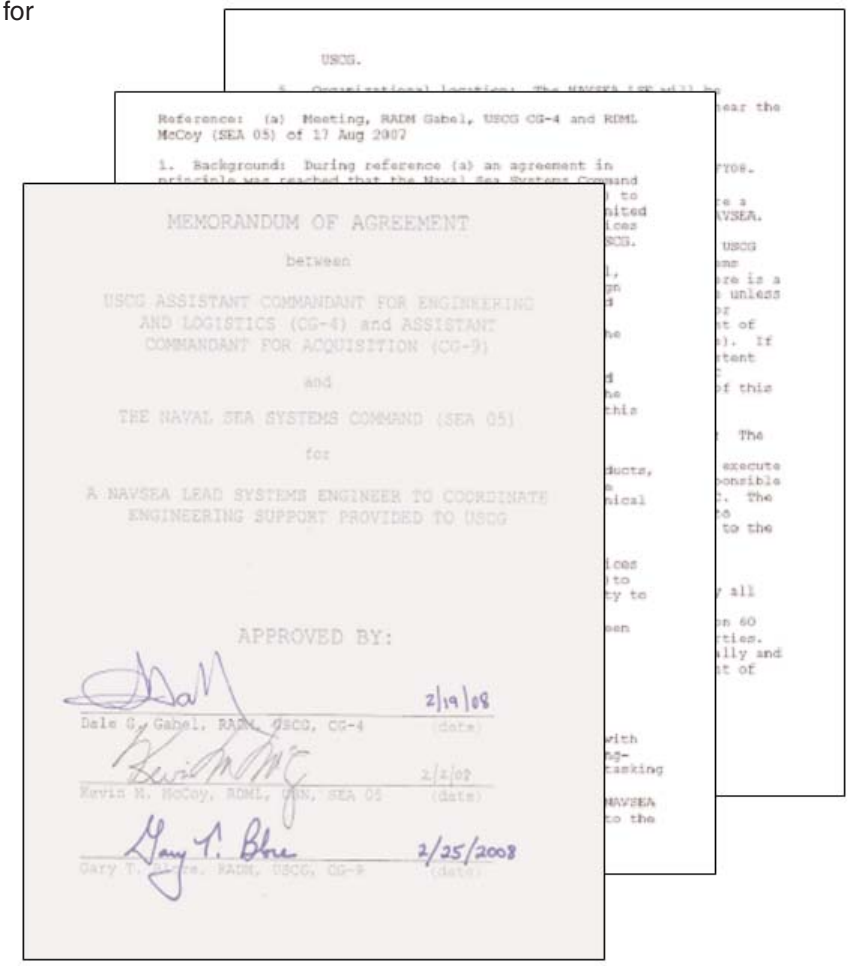
Crewmen aboard the Coast Guard Cutter MELLON, pictured left, handle lines while mooring up next to the cutter MIDGETT after returning from a 58-day patrol in the East Pacific. The 378-foot cutter is based in Seattle and has a crew of 150. Official Coast Guard photo by Petty Officer 3rd Class Jeff Pollinger.

There's a New CG-4, CG-9 and NAVSEA 05 MOA in Town

by LCDR Jay Main, NAVSEA liaison

SO, what does it mean?

The Memorandum Of Agreement (MOA) establishes the process by which we obtain technical services from NAVSEA in support of CG-4 (Engineering and Logistics Directorate) and CG-9 (Acquisition Directorate) requirements. Development of the MOA began nearly a year ago when NAVSEA expressed concern over its leadership's lack of visibility of work it was performing in support of Coast Guard Technical Authority and acquisition endeavors. NAVSEA leadership asked for all technical services work to be brought in "through the front door" of NAVSEA. This necessitates having a single POC as the facilitator and broker of technical engineering design work within the NAVSEA organization. NAVSEA has appointed a Lead System Engineer (LSE) to this function. Additionally, the stand up of CG-4 Technical Authority within the CG last year, made it important to establish a "front door" for the Coast Guard to ensure CG-4 engineers are engaged within this process, working with NAVSEA's LSE and surface warfare centers on getting the required engineering services. We now have the ability on the CG side as a NAVSEA liaison to fulfill this role.


USCG.

Reference: (a) Meeting, RADM Gabel, USCG CG-4 and RDML McCoy (SEA 05) of 17 Aug 2007

1. Background: During reference (a) an agreement in

MEMORANDUM OF AGREEMENT

between

USCG ASSISTANT COMMANDANT FOR ENGINEERING AND LOGISTICS (CG-4) and ASSISTANT COMMANDANT FOR ACQUISITION (CG-9)

and

THE NAVAL SEA SYSTEMS COMMAND (SEA 05)

for

A NAVSEA LEAD SYSTEMS ENGINEER TO COORDINATE ENGINEERING SUPPORT PROVIDED TO USCG

APPROVED BY:

Dale G. Gabel, RADM, USCG, CG-4 — 2/19/08 (date)

Kevin M. McCoy, RDML, USN, SEA 05 — 2/2/08 (date)

Gary T. Blue, RADM, USCG, CG-9 — 2/25/2008 (date)

The NAVSEA Lead System Engineer and Liaison:

- **Coordinates the development, acceptance, approval and delivery** of all Hull, Mechanical and Electrical (HM&E); Combat System design services; C4I and Aviation issues that have shipboard integration implications as related to new vessel acquisitions and in-service vessel design issues.
- **Works** with the appropriate acquisition Program Executive Offices (PEO), CG engineers and the Warfare Centers Executive (WCE) to explore the appropriateness, and NAVSEA's ability to support USCG tasking.
- **Coordinates cost, schedule and deliverables between parties, and concur with final tasking before acceptance**.
- **Ensures proper technical reviews are conducted** utilizing NAVSEA's technical processes and CG subject matter expert's representing the CG technical authority.

Look for future articles describing the NAVSEA organization and services available to the Coast Guard. If you are interested in using NAVSEA technical services, please contact the NAVSEA liaison, LCDR Jay Main at (202) 475-5728 or Jay.E.Main@uscg.mil.

U.S. Coast Guard photo/Petty Officer 3rd Class Tom Atkeson.

Hurricane IKE Emergency Communication Restoration

by LT Todd Porter, C2CEN

18 -29 September 2008

Hurricane Ike roared ashore on the 13th of September 2008 packing 80 mph plus winds and a storm surge of more than 12 feet. No region was more affected than the Texas Coast, as Ike stranded 20,000 people on Galveston Island and wiped out hundreds of houses on the Bolivar Peninsula. Over 100 lives were claimed by this powerful storm.

Causeway to Galveston.

In the thousands of articles written in the aftermath of this disaster, little note was made of the storms direct hit to the Coast Guard's Vessel Traffic and National Distress Systems (VTS and NDS), or the actions of Command and Control Engineering Center's (C2CEN) response team, deployed by Maintenance and Logistics Command Atlantic (MLCLANT) to replace sensors and network connections for lower Galveston Bay. Equally unsung was C2CEN's deployment of new digital microwave technology to connect Galveston Island to the mainland, which proved to be a critical part of the restoration. These seemingly small details significantly affected the oil industry and economy of United States, especially the southeastern US.

Houston, with the greatest concentration of petrochemical plants in the nation, refines 20 percent of US domestic fuel, was taken completely off-line for the passage of Hurricane Ike. Power was quickly restored, and efforts to restart these facilities began soon after the hurricane passed, however, one vital element was missing: crude oil. With the shipping channel and Galveston Bay closed to traffic, there was no way to bring raw materials to the refineries. Hundreds of oil laden ships lay at anchor offshore waiting for their opportunity to make passage. This translated into port shipping and refinery losses estimated at $322M dollars per day, combined with gas shortages growing throughout the southern United States. Rapid restoration of the misplaced Aides to Navigation (ATON) and Sector's comms capabilities to the Vessel Traffic Center became a primary objective to open the shipping lanes for safe passage.

The most critical VTS and NDS remote sites affected by Hurricane Ike were in Galveston and Point Bolivar. These locations provide voice communications (comms), radar, camera and Automatic Identification System (AIS) coverage of lower Galveston Bay and the approaches to Houston. Thankfully, two out of the three equipment huts in Galveston and Port Bolivar were elevated 12 ft above sea level and survived, protecting expensive radar and AIS equipment. Galveston Island was largely without power, telecommunications (telecoms), public water and sanitation services. Sector operations set up temporary NDS comms at Sector Field Office (SFO) Galveston out of the Enhanced Mobile Incident Command Post (E-MICP).

On 18 September 2008, a C2CEN six member response team, including contractors, was dispatched at the request of MLCLANT to restore the comms casualties as soon as possible. A C130 aircraft from Elizabeth City, NC flew the crew and equipment to Houston Air Station to check into the Incident Command Post (ICP) at Clearlake for tasking. The Sector Commander set an order of precedence prioritizing the effort in the following order: VTS comms, AIS, NDS, radar and then cameras.

Unfortunately, the Sector's most critical comms equipment and telecom demarcation point transporting the Galveston sensor data back to the Sector lay destroyed or underwater. New VHF radios, antenna feed lines and AIS base stations were installed at the Galveston site and became fully operational. However, there was no way to get the sensor data back to the Vessel Traffic Center (VTC) in Houston. The phone company was inundated with requests and could not restore these connections quickly. Proactively anticipating this situation, C2CEN deployed a microwave system with the team to provide a link from Galveston Island to the mainland. A 100 Mbps microwave connection was quickly established to the CG tower in Texas City, a site that received little hurricane damage and had a functioning T1 data circuit. A swift redesign of the sensor wide area network topology was developed and implemented. Using routers, data was reprioritized and full VTS/NDS voice and AIS communications were restored three days after the team arrived on site. Microwave technology played the pivotal role in establishing a comms link to the mainland.

Three additional commercial T1 data connections between Texas City and the Sector were ordered to accommodate sensor bandwidth requirements, along with additional network routers and switches. Galveston's VHF, AIS, radar and camera communication systems became fully operational at 1730 on 26 September 2008, 13 days after Hurricane Ike struck and seven days after the team arrived. Ordering and validating the new circuits and reconfiguring the network were clearly the most difficult tasks to overcome and exposed the vulnerabilities of solely relying on commercial telecom services.

Sectors Destroyed Comms Gear.

Cisco 2811 Router.

Heliax Cables Cut Off And Terminated For Emergency Repair.

Background on C2CEN's Microwave solution

C2CEN has had great success utilizing Motorola's Point-to-Point (PTP) microwave technology and currently has it deployed in Boston, Charleston, Miami, Key West, Hampton Roads and Morgan City, Louisiana. As this incident highlights, the reliability and potential cost savings make this a truly viable solution for future projects. In fact, the technology has improved so much that reliability in high interference areas, at long distances, over water, in extreme weather, and in non-line-sight (NLoS) environments is very high (up to 99.99% availability). The equipment is relatively easy to install, utilizes Ethernet technology and incorporates the 256-bit Advanced Encryption Standard (AES). C2CEN microwaves operate on 5.4 GHz unlicensed radio frequencies (no telecom cost). A full power/non-limiting 5.4 GHz version is optimized for agencies of the federal government. Amazingly, the integrated antenna uses Power-over-Ethernet (PoE) via category 5E cable (48 vdc) at a usable distance of up to 300 feet.

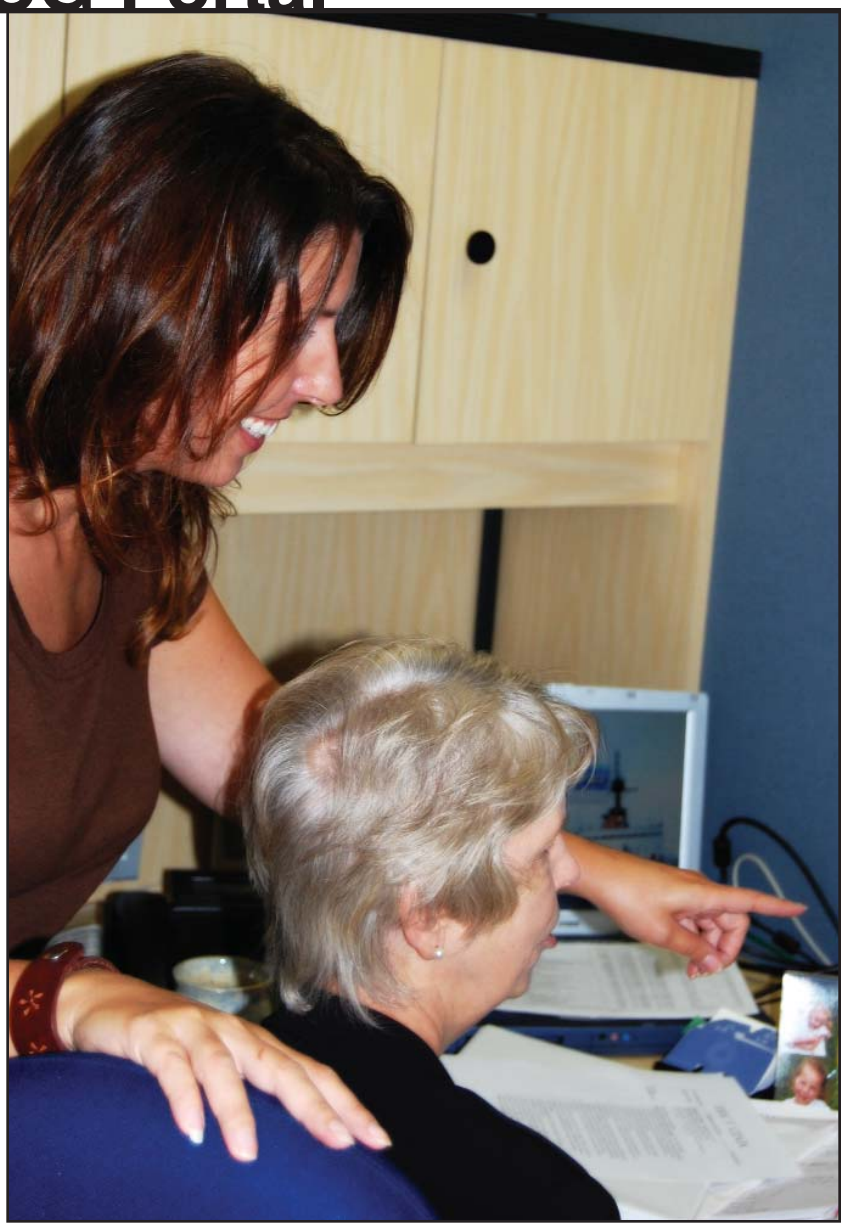
The fact that many of the sensor remote sites have multiple T1 circuits makes the choice to migrate to microwave technology attractive by saving the Coast Guard thousands in annual recurring telecom costs. Consider a typical T1 data circuit has 1.54 Mbps throughput with a typical annual cost of $5K. Over a ten year period a remote site with three T1s add up to $150K in recurring costs. A PTP microwave connection has 105 Mbps of throughput, costs $15K for the equipment and has an estimated ten year life-cycle.

Currently, the PTP microwaves operate in the 5.4 and 5.8 GHz unlicensed bands. Utilizing high-capacity and cost-effective wireless solutions, network designers can eliminate or reduce the more expensive, traditional approaches requiring multiple T1 leased lines, DS3 lines or leased microwave systems, thereby reducing backhaul costs. Based on the information above, one PTP microwave can provide throughput equivalent to 68 T1 lines or 1.5 DS3 lines; a case-in-point for future technology business decisions.

C2CEN's expertise in remote VTS/NDS sensors, networks and microwave technology directly attributed to help open up the Houston-Galveston's shipping lanes. The Port Authority opened two days earlier than advertised and was very grateful for the Coast Guard's efforts.

Web 2.0: Advancing Collaboration with CG Portal

by LCDR John R. Cole, OSC



Monika Foster, (left), Team Leader for the FatWire component, works closely with LouAnn Stovall, Tester, on a key collaboration component. Photo credit: Michelle Del-Colle.

As many of us know from personal experience, leveraging the intranet and the Internet to successfully perform our duties can be a challenge. Our internal access point, Coast Guard (CG) Central, is painfully slow. We have problems posting documents, finding documents, communicating with each other, and absolutely cannot include our external partners for collaborative purposes. Our Internet presence, though attractive, is fraught with its own set of challenges. As a business system completely separate from CG Central, web content providers are frequently required to duplicate efforts when attempting to "pass the word" beyond the confines of the Coast Guard. Adding in new Department of Homeland Security (DHS) mandates for web site branding, our content providers (and their respective units) are finding the process both time consuming and complex.

Fortunately the holiday season is rapidly approaching. As a time for gift giving and "good will towards men," each of us will receive the gift of a new and improved web environment.

RDML David Glenn, Assistant Commandant for Command, Control, Communications, Computers and Information Technology, set a target roll-out date for a new portal of December 2008 (ALCOAST 536/07). Since then, the Operation System Center's (OSC) Portal Team has worked tirelessly to meet this goal. In March of 2008, the Team received approval to begin planning and implementing a solution. The result will be the much-anticipated replacement for Coast Guard Central (CG Central) and our World Wide Web (WWW) presence: Coast Guard (CG) Portal. While its name is not very imaginative, the new product is. CG Portal will act as the single point-of-entry for both internal and external customers. Unlike CG Central and WWW, CG Portal is a suite of applications working

together to provide a feature-rich environment. At its core lie four key products: IBM WebSphere Portal, IBM Lotus Quickr, IBM Sametime and FatWire.

IBM WebSphere Portal

Although the product title sounds like something from "Stargate SG-1," WebSphere Portal is actually the foundation of our new portal system and, interestingly enough, the most transparent of the four key products. With little flash and fanfare, WebSphere acts as the framework on which everything else is built. It provides common services -- access control, integration, administration, and presentation -- while allowing a highly flexible and scalable environment to ease future growth (for non-technical readers, scalability refers to the ability of a computer system to grow without impacting performance). Key to WebSphere is its ability to support JSR 168 compliant portlets.

"And that means what to me?" you ask.

"JSR 168, or Java Specification Request 168, standardizes the way portal components are developed. These components, also known as portlets, are pluggable user interfaces that can be independently managed and displayed in a web portal window."

In essence, WebSphere, coupled with JSR 168 compliancy, allows business system developers the flexibility to change the presentation of their data without impacting the backend support functions (an example of this is Coast Guard Business Intelligence (CGBI)).

"Sounds great," you say, "but I'm not a developer. What's in it for me?"

"Read on, my friend. Read on."

IBM Lotus Quickr

Wikipedia, that free web-based encyclopedia that may or may not be the most accurate of references, defines Web 2.0 as "… a term describing changing trends in the use of World Wide Web technology and web design that aims to enhance creativity, information sharing, and collaboration among users." Our Commandant, along with the majority of our younger generation, staunchly supports Web 2.0 as a method for bringing the Coast Guard family closer. IBM's Lotus Quickr product facilitates Web 2.0 by serving as CG Portal's primary collaborative and information sharing software. Quickr provides team spaces where members can share and collaborate (hereby known as Quickr Places), use team calendars, converse using discussions forums, generate web logs (blogs) and wikis. In other words, Quickr will allow us to manage projects, work and content, easier and faster. Most importantly, Quickr is the direct one-to-one replacement of CG Central's rather archaic and less-than-user-friendly Microsites. That's a "score one for CG Portal" in my book.

IBM Sametime

Instant Messaging (IM) is, perhaps, one of the most misunderstood and under-utilized tools in the Coast Guard Information Technology (IT) toolbox. Similar in function to the traditional telephone, IM is a rapid and efficient method of real-time communication (and not nearly as interruptive). Unfortunately, our current toolset prohibits effective IM in terms of collaboration within CG Central. IBM Sametime changes that. Integrated with CG Portal, Sametime allows enterprise IM functionality to both internal and external participants.

"But wait," you say. "Don't we have an IM or chat tool in CG Central?"

I politely reply, "Yes. Yes we do."

You are, of course, referring to CG Talk. While CG Talk has served us well over the last five years or so, its fatal flaw is its lack of presence awareness. Presence awareness is an artificial "artificial intelligence" that knows whether a user is on line or not. The benefit of presence awareness was apparent to me about three minutes ago when I started CG Talk. There, waiting patiently for a reply, was a note from a colleague dated November 2005. Because Sametime continually monitors user activity within CG Portal, those wishing to communicate with other users can instantly determine availability. This advantage over CG Talk allows Sametime to work in conjunction with documents and files to ease collaboration.

"Hold the phone! Didn't you say Sametime can work with 'external participants' as well? What's up with that?"

"Let me explain, Grasshopper."

Keeping in mind the end state of CG Portal as the single point-of-entry for both internal and external customers, Sametime offers the ability to chat to customers that are not within our Coast Guard Data Network, thus expanding collaboration efforts to include non-Coast Guard entities. The result will offer an incredibly rich environment to innovate, discuss and expand our information boundaries.

"So we only have IM when we're in CG Portal? That seems to limit our communications a bit, don't you think?" you query.

"Nope," I insightfully answer.

When working outside of CG Portal, but within the Coast Guard Data Network, the primary enterprise tool for rapid messaging and collaboration is Office Communications Server (OCS). OCS provides desktop IM, conferencing and Voice over IP (VoIP). Like IBM Sametime, the product is also presence aware but serves those inside the enterprise -- regardless of whether they are signed into CG Portal or not.

FatWire

So far we've discussed how Quickr and Sametime offer improvements over CG Central, our internal portal. Although exciting, of more concern to our exceptionally talented -- and overworked -- WWW web developers is how CG Portal will ease both intranet and Internet content management. Why is this important? Well, for one thing, the Coast Guard Portal system (CG Central and WWW combined) manages nearly 2,000 content contributors -- each with a differing skill level. That, coupled by increasing demands from DHS, places our web folks in a very precarious position: how to balance competing demands between unit role and web designer role. Fortunately, the FatWire Content Management System (CMS) solves this dilemma by reducing the overhead of managing a web presence. FatWire is the key component in ensuring a uniform taxonomy and presentation among all unit sites and information while providing local units the ability to manage content presentation locally. FatWire allows sophisticated workflow, versioning and easy-to-use interfaces for content management functions. Put another way, FatWire makes life a whole lot easier. As an added bonus, FatWire also complies with DHS branding requirements. FatWire provides the templates, content providers post and arrange.

The Road Ahead

CG Portal is slated for Initial Operation Capability (IOC) at the end of the year. Timelines notwithstanding, the true measure of success will be based on customer satisfaction. To that end,

migration and transition planning was intentionally aimed towards mitigating customer risk.

"How so?" you intelligently ask.

"Good question! Our risk mitigation plan eases the transition to the new portal by segregating our customer base into two groups: internal users (a.k.a., Coast Guard Data Network (CGDN+)/Active Directory (AD) users) and external customers (everyone else))."

Our internal users will migrate first, helping to ensure workflow continuity between the old and new systems. CG Portal IOC will include all CG Central Microsite data consisting of the most recent version of all documents and all participant roles ported and posted to Quickr Places. CG Central, as you recall, is our internal access point. Because taxonomies, permissions and user groups may vary between the two, CG Central will not be immediately powered down. Instead, the new CG Portal system will remain in a read-only mode for a finite period. During this period, CG Central will remain the authoritative data source. Customers will have ample opportunity to compare/contrast data integrity while adjusting to the new environment. Concurrently, key content publishers will receive the training needed to succeed.

Early in the first quarter of 2009, after all data has been vetted and verified by the user community, CG Portal will assume its rightful role as the authoritative data source. Simultaneously, some lucky OSC technician will have the unique opportunity to pull the plug on a Coast Guard institution.

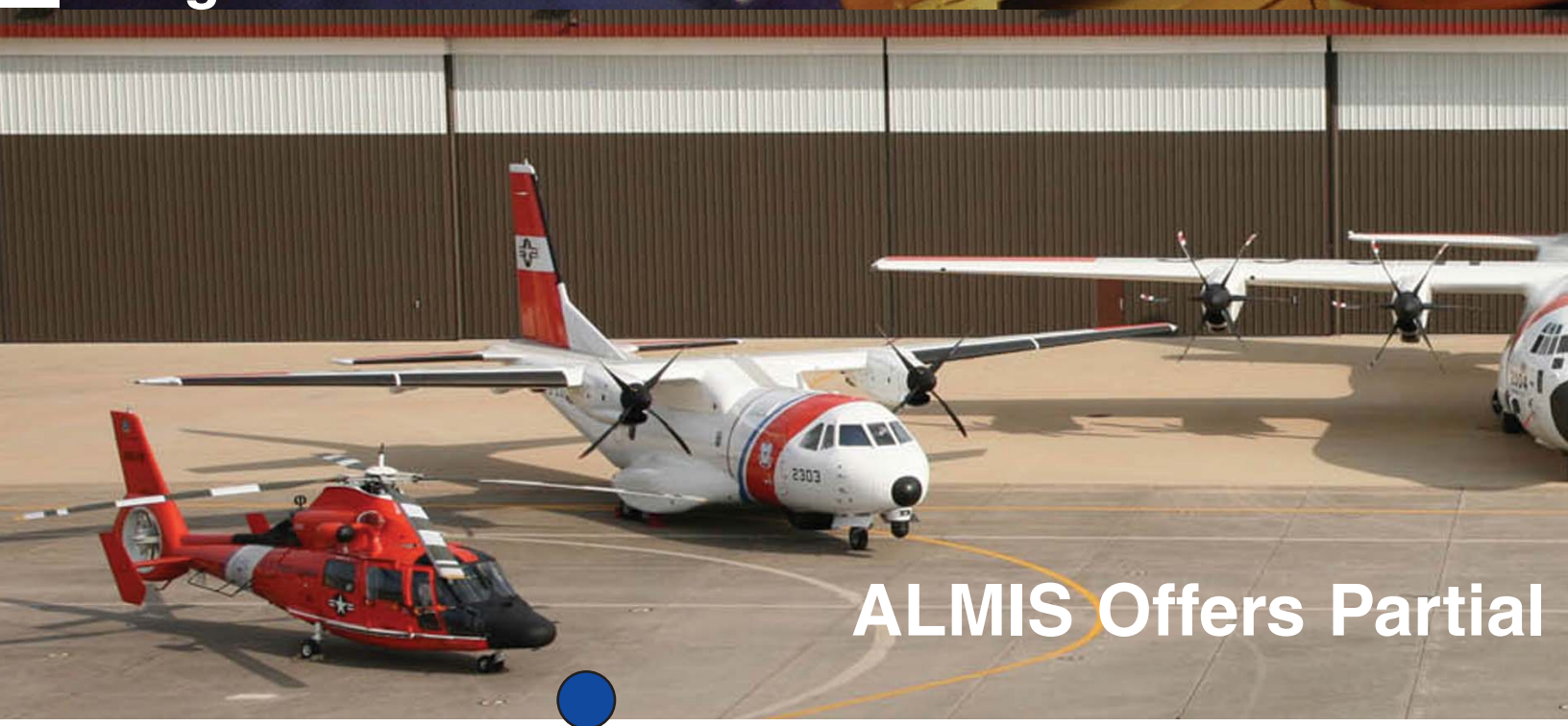
On the shirttails of CG Central comes WWW, a business system serving the global community. Beginning in the first quarter of 2009, we will enlist our army of web developers to assist the OSC Team with transitioning our Internet presence. And their help is certainly needed! The WWW tote board currently stands at 407 unique web site (this number does not reflect the 140 or so web site disabled as a result of the recent DHS branding mandate). In other words, the Coast Guard has literally thousands of web pages to move. Since we are moving from a free-form, HTML-based, system to a structured, form-based, presentation method, each page will have to be "touched" by a human. The benefit of this approach, aside from enhancing OSC-to-web developer relations, is that each piece of material can be validated by their associated owner. The result should be a drastic reduction in outdated and duplicative content. Pending any meteor strikes to the data center at OSC, CG Portal will be a full-service portal by the spring of 2009.

CG Portal development leverages both professional services as well as local talent (Left to right: Mike Field, Fatwire consultant, and Andrew Wolfe, Technical Lead). Photo credit: Monika Foster.

The Future

The future of CG Portal is very exciting. In addition to providing feature-rich, Web 2.0, capabilities to our Coast Guard family, we anticipate extending the scope to include collaborative business partners from all DHS Components. The future will also see improved work-life management by providing a much-needed unit ombudsmen tool for intra-family communications in addition to a "CG Portal Lite" for the fleet.

By and large, CG Portal offers a vast improvement to our existing portal systems and is a welcomed addition to our IT family.



ALMIS Offers Partial

Information Services Division, Aviation Logistics Center, Elizabeth City, NC -- The Electronic Asset Logbook (EAL), a subsystem of the Asset Logistics Management Information System (ALMIS), has a new tool for Coast Guard mission planning and asset-degradation tracking. The Partial Mission Capable (PMC) component enables personnel to log complications with aircraft and boats that could affect their ability to perform all missions.

PMC is defined as "Bravo with limitations." A PMC Degrader is an issue with an asset that prevents it from performing at least one mission type. For example, a helicopter with an inoperative hoist PMC degrader cannot be used for SAR operations; however, it is still available for pilot training or transporting passengers and cargo.

"I like the PMC functionality from the field level," says CDR Keith Overstreet, Engineering Officer at Air Station Traverse City, "It adds some critical transparency that was missing. PMC initiates some very valuable discussion at different levels of the organization. For example, I would consider accepting the increased risk of hovering over the water during the day

Edit Status:

Status changed as of: Zulu Date: 09/03/2008 Zulu Time: 1843

Status

Bravo: FMC

* To indicate the asset is PMC an entry in the Partial Mission Capable Degraders is required in the table below.

Partial Mission Capable Degraders		
Zulu Start Date	Zulu Start Time	Mission Degrader
09/03/2008	1843	HOIST: Hoist degraded/inoperable

OPFAC Asset Status Summary View.

Aircraft Active Status:

AC#	Aircraft Type	Status	PMC / RFB
1715	C130	NMCM as of 11 SEP 2008 / 1730 Z	RFB on 12 SEP 2008 / 0400 Z
2110	HU25	FMC as of 11 SEP 2008 / 1727 Z	- -
2139	HU25	NMCM as of 02 SEP 2008 / 1517 Z	RFB on 02 SEP 2008 / 1517 Z
2305	C144	FMC as of 05 SEP 2008 / 1254 Z	- -
6023	H60	PMC as of 10 SEP 2008 / 1136 Z	OTHER - NO SAR GEAR (S)
6502	H65	NMCM as of 27 AUG 2008 / 1324 Z	RFB on 17 SEP 2008 / 1200 Z
6520	H65	NMCM as of 02 SEP 2008 / 1828 Z	RFB on 24 SEP 2008 / 1600 Z
6599	H65	PMC as of 03 SEP 2008 / 1843 Z	HOIST (S)

Mission Degrader Entry Screen.

Mission Capable Logistics

by Ryan Somma, USCG Aviation Logistics Center

U.S. Coast Guard Photo.

without a RADALT for a high gain hoist, but you wouldn't catch me doing it at night. I can now point to PMC as I explain why I will not use a specific asset at night, when it is listed as available for use."

Rather than listing asset statuses in EAL as simply "Bravo," statuses are now additionally listed as either "Fully Mission Capable (FMC)" or "Partial Mission Capable (PMC)" based on the existence of degraders. Asset Status summary screens provide operations schedulers with a snapshot of all the aircraft and boats at their facility and their readiness for outlining mission capabilities.

Future ALMIS releases will include Decision Support System (DSS) reports for tracking the history and frequency of PMC degraders, illustrating their impact on mission readiness. Forthcoming metrics will benefit higher levels of operations, maintenance and supply planning by identifying common or persistent mission degraders, accounting for poor performing supply components, and providing personnel allowance change justification to address reoccurring maintenance issues.

For additional information on ALMIS, EAL or PMC functionality, please contact LCDR Rob Taylor, Information Systems Division Chief, USCG Aviation Logistics Center: robert.f.taylor@uscg.mil or (252) 335-6789.

Aircraft Active Status:

OPFAC Name	AC#	Aircraft Type	Status	PMC / RFB
AR & SC	1715	C130	NMCM as of 11 SEP 2008 / 1730 Z	RFB on 12 SEP 2008 / 0400 Z
AR & SC	2110	HU25	FMC as of 11 SEP 2008 / 1727 Z	- -
AR & SC	2139	HU25	NMCM as of 02 SEP 2008 / 1517 Z	RFB on 02 SEP 2008 / 1517 Z
AR & SC	2305	C144	FMC as of 05 SEP 2008 / 1254 Z	- -
AR & SC	6023	H60	PMC as of 10 SEP 2008 / 1136 Z	OTHER - NO SAR GEAR (S)
AR & SC	6502	H65	NMCM as of 27 AUG 2008 / 1324 Z	RFB on 17 SEP 2008 / 1200 Z
AR & SC	6520	H65	NMCM as of 02 SEP 2008 / 1828 Z	RFB on 24 SEP 2008 / 1600 Z
AR & SC	6599	H65	PMC as of 03 SEP 2008 / 1843 Z	HOIST (S)
ASTORIA (air station)	6006	H60	PMC as of 10 SEP 2008 / 0258 Z	HF-ALE (M)
ASTORIA (air station)	6021	H60	NMCM as of 07 SEP 2008 / 1930 Z	RFB on 22 SEP 2008 / 2300 Z
ASTORIA (air station)	6030	H60	PMC as of 11 SEP 2008 / 1910 Z	BLADE DE-ICE SYSTEM (M)
ATC MOBILE	2118	HU25	FMC as of 10 SEP 2008 / 0503 Z	- -
ATC MOBILE	2120	HU25	FMC as of 08 SEP 2008 / 1900 Z	- -
ATC MOBILE	2127	HU25	FMC as of 10 SEP 2008 / 1727 Z	- -
ATC MOBILE	2134	HU25	NMCM as of 11 SEP 2008 / 0002 Z	RFB on 11 SEP 2008 / 2359 Z
ATC MOBILE	2301	C144	PMC as of 10 SEP 2008 / 1400 Z	CRYPTO (M) PRESSURIZATION (M)

Headquarter's Asset Status Summary View.

Coast Guard Develops Processes, Information Technology for New 'Culture' in Logistics

by Hunter Keeter, CG-925

The Coast Guard is developing new processes and IT tools that will improve life-cycle support for the service's 194 aircraft, 252 cutters and patrol boats, 1,660 small boats, 945 shore units and more than 62,000 personnel in the field. The Engineering and Logistics Directorate (CG-4) leads this massive undertaking, in collaboration with the directorates for Information Technology (CG-6), Resources (CG-8) and Acquisition (CG-9).

Part of the Commandant's comprehensive modernization initiative, logistics modernization will replace inefficient and stove-piped processes and a multitude of legacy IT tools with an integrated set of processes and an information management system that will enhance the mission effectiveness of the Coast Guard's operational force.

The transformed logistics system will include some new tools, such as software applications that will manage databases of maintenance and configuration management information. Perhaps the most significant aspect of the transformation will be the development, implementation and enforcement of new processes that change the "culture" of Coast Guard logistics.

Today, the Coast Guard's logistics infrastructure is matched to its client assets: each domain has an organizational stovepipe within which life-cycle support is provided. The Coast Guard wants to integrate those support processes across all operational domains, to create a more homogenous approach that will support operational readiness and budget planning and for the entire force.

The Coast Guard's aviation community already has processes and systems in place that link operational readiness and mission capability directly to logistics data and life-cycle costs. This linkage is a powerful risk management capability for decision-makers, who are able to demonstrate empirically just how much Coast Guard aviation capability a given level of investment will deliver, as well as the operational impact of funding shortfalls.

As an initial step in modernization, the Coast Guard is applying many aspects of the aviation community's logistics model to other operational domains. For example, the aviators' strict control of asset configuration, as acquired and as-maintained, is teaching lessons in how to effectively manage many type/model series of platforms, and variations within each series.

Another aspect to be applied more broadly is the aviators' collective approach to support resources. For example, parts are shared among air stations and the Coast Guard Aviation Repair and Support Center, Elizabeth City, N.C., in a network that allows one unit to order parts from another as easily as from the warehouse, vendor or supplier. The process will be applied to other operational domains.

The aviation support community also has been successful implementing a product-line approach to asset configuration and maintenance at the depot, Aviation Logistics Center (ALC). Each aircraft type/model series is supported by dedicated infrastructure of shops, tools, supply chains and personnel. The same approach is now being implemented for surface vessels managed by the Engineering Logistics Center at the Coast Guard Yard, Curtis Bay, Md.

Next-Generation IT Tools for Logistics

The aviators' successful logistics processes are supported by an effective IT tool called the Aviation Logistics Management Information System (ALMIS). ALMIS is a web-based application on the Coast Guard's intranet that provides a single inventory control point and centralized management of the aviation community's maintenance databases for more than 5,000 user accounts.

ALMIS helps users standardize maintenance practices, schedule resources, track the availability and status of people and assets, and identify non-standard parts. The Coast Guard wants to replicate the success of ALMIS, and the effective processes that it supports, more broadly. For example, Sector Baltimore has developed a prototype of a modified ALMIS tool that will support the Response Boat-Small product line.

ALMIS has limitations, however, as it was designed many years ago to interface with other, equally dated elements of the Coast Guard's IT infrastructure. Today, the Coast Guard is developing a new system that will gradually

replace ALMIS, as well the functionality of other legacy tools, including the Vessel Logistics System and the Shore Asset Management system. This is where the Acquisition Directorate comes into the picture.

Integrated Logistics System program manager, CAPT Brad W. Fabling, has a new acquisition project, called the Coast Guard-Logistics Information Management System. As it matures, CG-LIMS will help streamline the information management systems that support the service's entire logistics culture, by replacing approximately 30-50 legacy logistics IT systems, some of which are 20 years old.

Fabling said the Acquisition Directorate's role was to develop CG-LIMS as a complement to the process improvements being developed by the Engineering and Logistics Directorate.

"[The Acquisition Directorate] is coming alongside the Engineering and Logistics Directorate to further their cause and provide a tool that will support logistics transformation," Fabling said. "It isn't the software system that makes the process work, it is the discipline, the checks and balances. The power is in the process … This allows [the users] to tie logistics to operational readiness."

Shelley A. Diedrich, deputy program manager for the Engineering and Logistics Directorate's Logistics Transformation Program Integration Office, agreed. She noted that requirements for the new, consolidated IT system should be based on the cultural change that is taking place across the logistics enterprise.

"We need to have acquisition and logistics business models that ensure we consistently deliver capability to the American people," Diedrich said. "It isn't just about buying IT systems; in order to deliver repeatable, consistent results we have to develop a culture that manages, monitors and controls for non-variable outcomes."

CG-LIMS gradually will integrate the logistics support functions for aviation and boats; Deepwater assets (including the National Security Cutters, the Sentinel-class patrol boats and the Offshore Patrol Cutters); command, control, communication, computers and intelligence assets; all cutters; and facilities.

Building on the success of ALMIS and the aviation community's logistics processes, the Coast Guard wants CG-LIMS to evolve into a centralized system with similar functionality, accessible to all maintainers, operators and program managers, regardless of their domain or location.

"In the future, everyone will see a common logistics picture, all the way across the organization," Fabling said. "The vision of where we are trying to go [with logistics IT systems] is about integrating all of the information we have available about our assets and our people under a single user interface."

CG-LIMS, by itself, will not solve every challenge in every area of life-cycle support throughout the Coast Guard, Fabling noted. However, the system will enhance operational readiness because unit, sector and district commanders would, at a glance, be able to assess the status of their people, and the condition of their assets.

"It may not be as simple as dialing '1-800 LOGISTICS,' but that is the vision that we are trying to achieve," said CG-LIMS project manager CDR Dan Taylor. "Beyond the unit level, if you need support, there will be a central place to go to find whatever you need."

As the Coast Guard modernizes its logistics processes, CG-LIMS will help users at the unit and depot levels improve their situational awareness of service-wide asset inventories, support requirements and the availability of resources.

The Business Case for Logistics Transformation

Consolidating the Coast Guard's logistics processes and systems also makes sense from a business standpoint. Taylor noted that recent studies have shown a significant amount of money may be saved by reducing the number and variety of Coast Guard logistics systems, and developing processes and IT tools that complement, rather than duplicate, core functions.

"Having a logistics system with a common configuration, that enables us to stock only as many spare parts as we need, and that manages how much support we need to deliver, enterprise-wide, will decrease inventory and management costs overall," Taylor said.

Jim Sylvester, chief of logistics systems and principal member of the Logistics Transformation Program Integration Office, agreed. He noted that the emerging logistics business model will have implications not only for the Coast Guard's support community, but for finance as well.

"Going back to 2004, when the Commandant directed that we look at the costs associated with our numerous logistics IT systems, different processes and diverse business models, we realized that logistics accounted for approximately $3.3 billion, or about one half the Coast Guard's annual budget [in fiscal year 2005]," Sylvester said. "If we can improve those tools and processes, and achieve even one half of 1 percent savings that would be substantial."

Academy Wins Electronic Recycling Award from White House

by Dr. Ken Malmberg, CG-443

The Coast Guard Academy was recently notified of winning the 2007-2008 Federal Electronics Reuse and Recycling Campaign, a campaign sponsored by the Environmental Protection Agency (EPA), the Office of the Federal Environmental Executive (OFEE) and the Federal Electronics Challenge (FEC). This campaign is designed to recycle computers and other electronics, thereby keeping them out of landfills where their pernicious effects can continue to pollute far into the future. The Academy was the only Coast Guard unit and Military Academy to enter.

The OFEE challenged Federal agencies to donate and recycle excess or surplus electronics during the third annual Electronics Reuse and Recycling Campaign (ERRC). Starting on America Recycles Day, November 15, 2007 and covering activities from October 1, 2007 through September 30, 2008, federal facilities competed to see who could reuse and recycle the most computers and other electronics.

The academy targeted CPUs, screen displays, docking stations, and other equipment, and recycled over 32,000 pounds of electronic materials. This achievement amounted to coordinating the reuse of large equipment and excess supplies between shops and departments, while obtaining lower-cost local companies to recycle the remaining materials. Net benefits from this program include reduced generation of hazardous waste, reduced tipping fees and a broader subscription to our Coast Guard ideals as environmental stewards. The achievement single handedly incorporated the FEC best practice from the Commandant's Environmental Stewardship Commitment of March, 2007.

The Academy's Environmental Branch worked with departments, shops and sections to reuse or redistribute rather than dispose, and, as part of a community outreach effort, assisted cadet Sustainability in Recycle Mania (see http://www.Recycle Mania.com) activities. Also, through collaborative projects, the Branch implemented a new Academy Qualified Recycling Program, a program legislatively authorized for Coast Guard participation in recycling of all types.

EPA recently issued new guidelines for the stewardship of electronic products at their end-of-life. OFEE said "when fully deployed and adopted these practices will change the electronic products recycling landscape and significantly alter the impact of end-of-life e-waste." (www.ofee.gov)

On December 16, 2008, representatives of the Academy and Headquarters gathered in Washington, D.C.; honored for their outstanding electronics stewardship efforts. The awards ceremony will recognize Federal employees and facilities for leading by example by donating to local schools, reusing, or recycling their used computers and other electronic equipment.

Our World of Work

We thought we would end this issue with a photo journal of our world of work. These images are of Coast Guard personnel performing various duties in their world of work. We hope you enjoy the photos.

Petty Officer 2nd Class Eric Hansen and Petty Officer 3rd Class Will Bledsoe, flight mechanics from Air Station Savannah, install a mechanized talon to one of the aircraft. The two petty officers are part of Air Station Savannah's night crew who work through the night to ensure that the aircraft are ready to fly for the following day. The night crew also stands duty as flight mechanics on the rescue helicopters, so they must ensure that their flight qualifications never lapse. They always have to be ready pluck survivors from the water. Coast Guard photo by PA1 Donnie Brzuska, PADET Jacksonville, Fla.

Our World of Work

GALVESTON, Texas (Sept. 15, 2008) - Petty Officer 2nd Class Nathan Fuentes of ISC St. Louis prepares to make roof repairs on buildings at Sector Field Office Galveston following Hurricane Ike. The unit sustained major damage from the storm. Coast Guard personnel from around the country have deployed to the unit to provide assistance in the clean up efforts. U.S. Coast Guard photo/Petty Officer 1st Class Alan Haraf.

Our World of Work

WERNER
IRWIN
BORDEN

PASCAGOULA, Miss. – Mark Matta, back right, of Coast Guard's Project Manager's Representative Office (PMRO) Gulf Coast observes workers from Northrop Grumman's Shipbuilding test the stern ramp of Coast Guard Cutter BERTHOLF with one of the three small boats carried by BERTHOLF. The netting is designed to "catch" the small boat and pull it onto the stern ramp after which it will be hoisted to a cradle for storage. U.S. Coast Guard Photo by Petty Officer 3rd Class Michael Anderson.

JACKSONVILLE, Fla. - Chief Petty Officer Robert Crumley and Petty Officer 1st Class Reginald Johnson track Tropical Storm Fay's progress across the Florida's First Coast Aug. 20, 2008. Crumley and Johnson work in the Sector Jacksonville command center. Coast Guard crews across the east coast of Florida are propositioning themselves to respond to those in need after Fay passes through the area. USCG photo by PA2 Bobby Nash.

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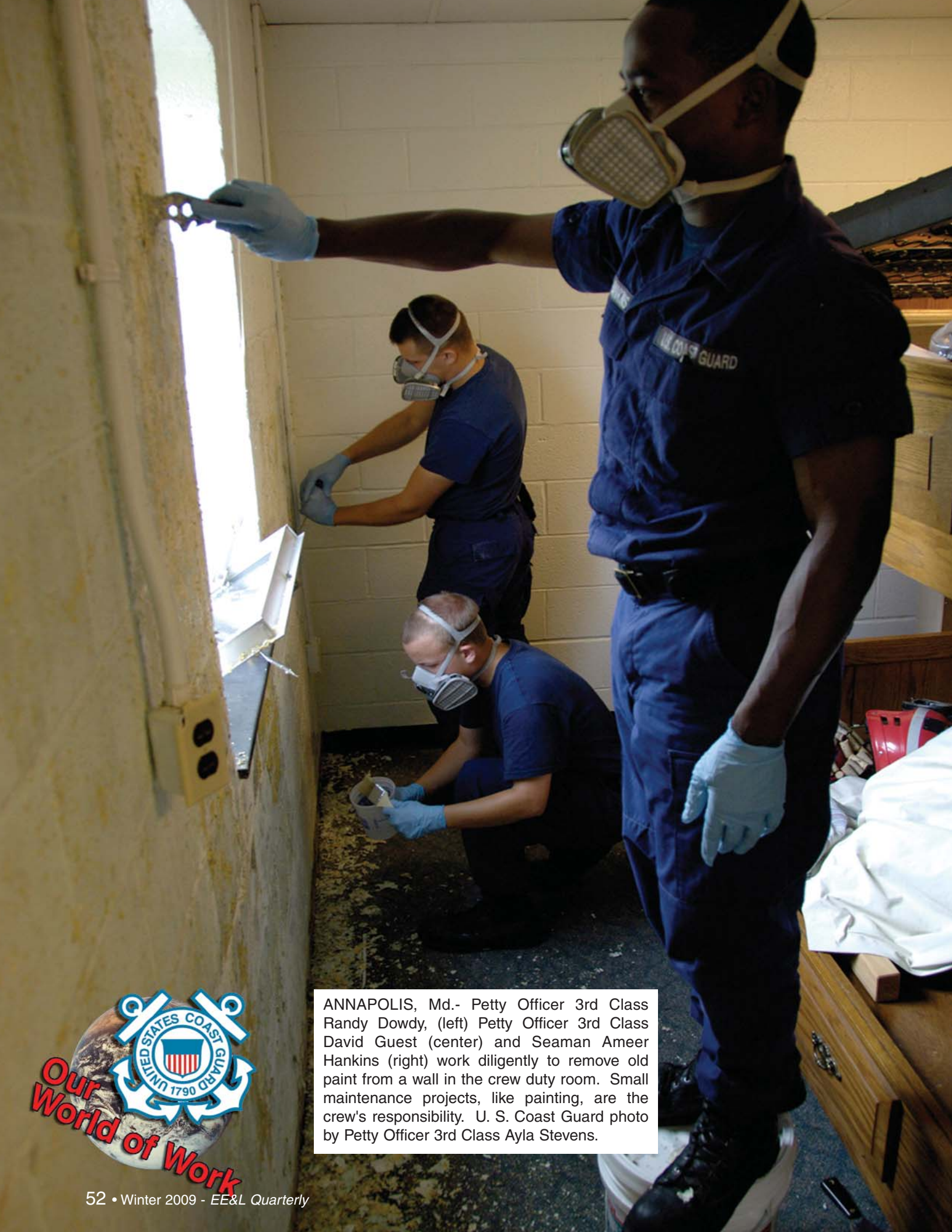
Our World of Work



ANNAPOLIS, Md.- Petty Officer 3rd Class Randy Dowdy, (left) Petty Officer 3rd Class David Guest (center) and Seaman Ameer Hankins (right) work diligently to remove old paint from a wall in the crew duty room. Small maintenance projects, like painting, are the crew's responsibility. U. S. Coast Guard photo by Petty Officer 3rd Class Ayla Stevens.

Our World of Work

GUANTANAMO BAY, Cuba -- Coast Guard Petty Officer 2nd Class Thomas Morrell, an avionics electrical technician powers on radar system on board a HU-25A Falcon jet before take off.

AETs inspect, service, maintain, troubleshoot and repair avionics systems that perform communications, navigation, collision avoidance, target acquisition and automatic flight-control functions.

U.S. Coast Guard photograph by Petty Officer 2nd Class Thomas M. Blue.

SAN FRANCISCO - Response team members with the Cosco Busan Incident apply oil-lifting chemicals to oiled rocks in Berkeley Marina Nov. 21, 2007.

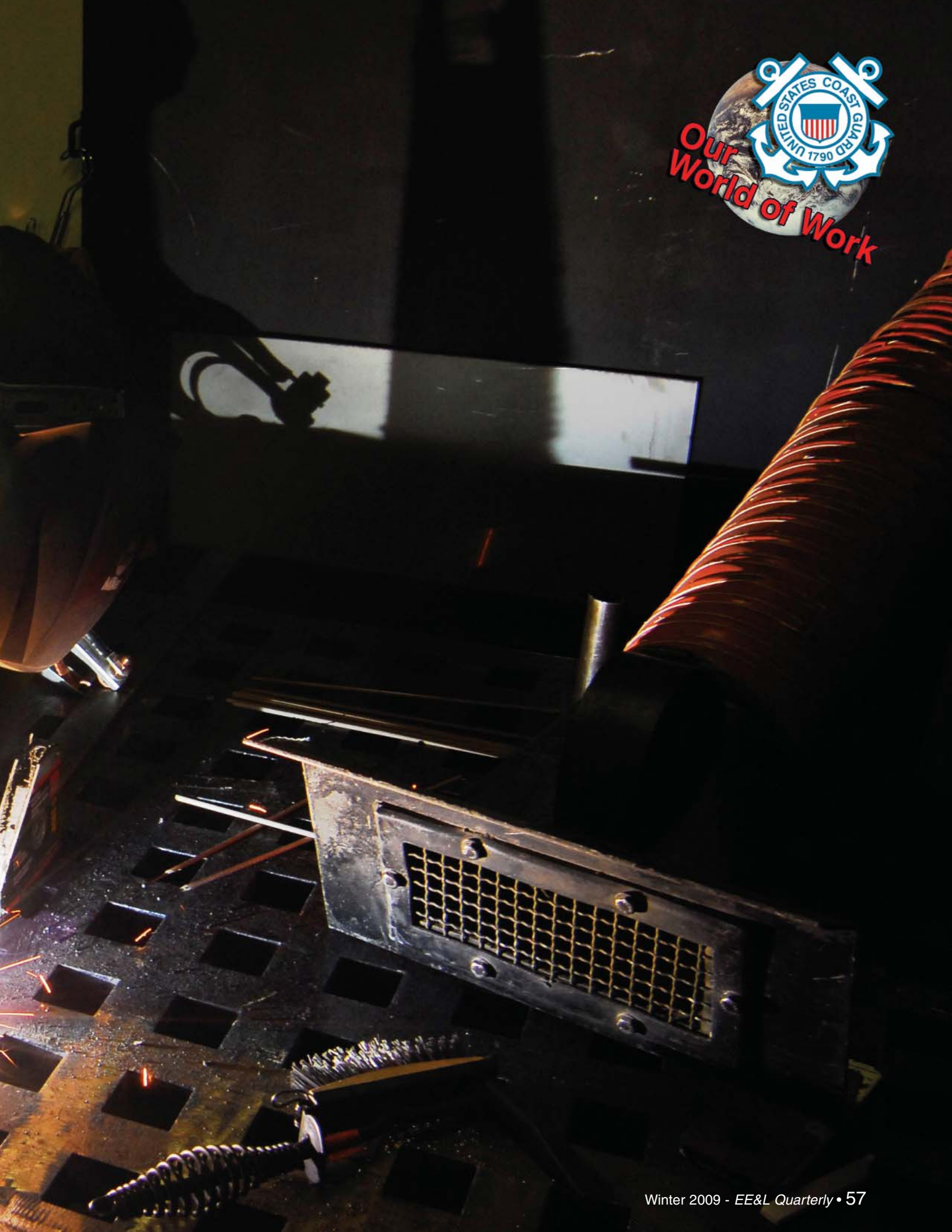
Three areas were surrounded by containment boom and used to test two chemicals. The third was a control area and was only sprayed with salt water.

Other responders used a boat to test the amount of oil at different depths in and around each area. The Unified Command will select the most environmentally friendly and most effective method to supplement ongoing response efforts.

U.S. Coast Guard photograph by Petty Officer 2nd Class Andrew Kendrick.

PACIFIC STRI
U.S. COAST
NATIONAL STRIKE FORCE
NSF
U.S. COAST GUARD
PACIFIC STRIKE TEAM
VAR

PACIFIC OCEAN - Petty Officer 3rd Class Lucas Mangold, a damage controlman, fabricates a bracket on board Coast Guard Cutter BERTHOLF. Damage controlmen are trained welders and are able to craft various items for use on board Coast Guard cutters. U.S. Coast Guard photo by Petty Officer 3rd Class Michael Anderson.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Two Coast Guardsmen from Communications Station Miami climb a 300-foot medium-frequency tower. Petty Officer 3rd Class Michael Whitcomb, an electronics technician at the CommSta, and Seaman Amin Grullon, a CommSta maintenance mechanic assistant, inspected and replaced a mid-tower aircraft warning light. Coast Guard photo by Petty Officer 3rd Class Nick Ameen.

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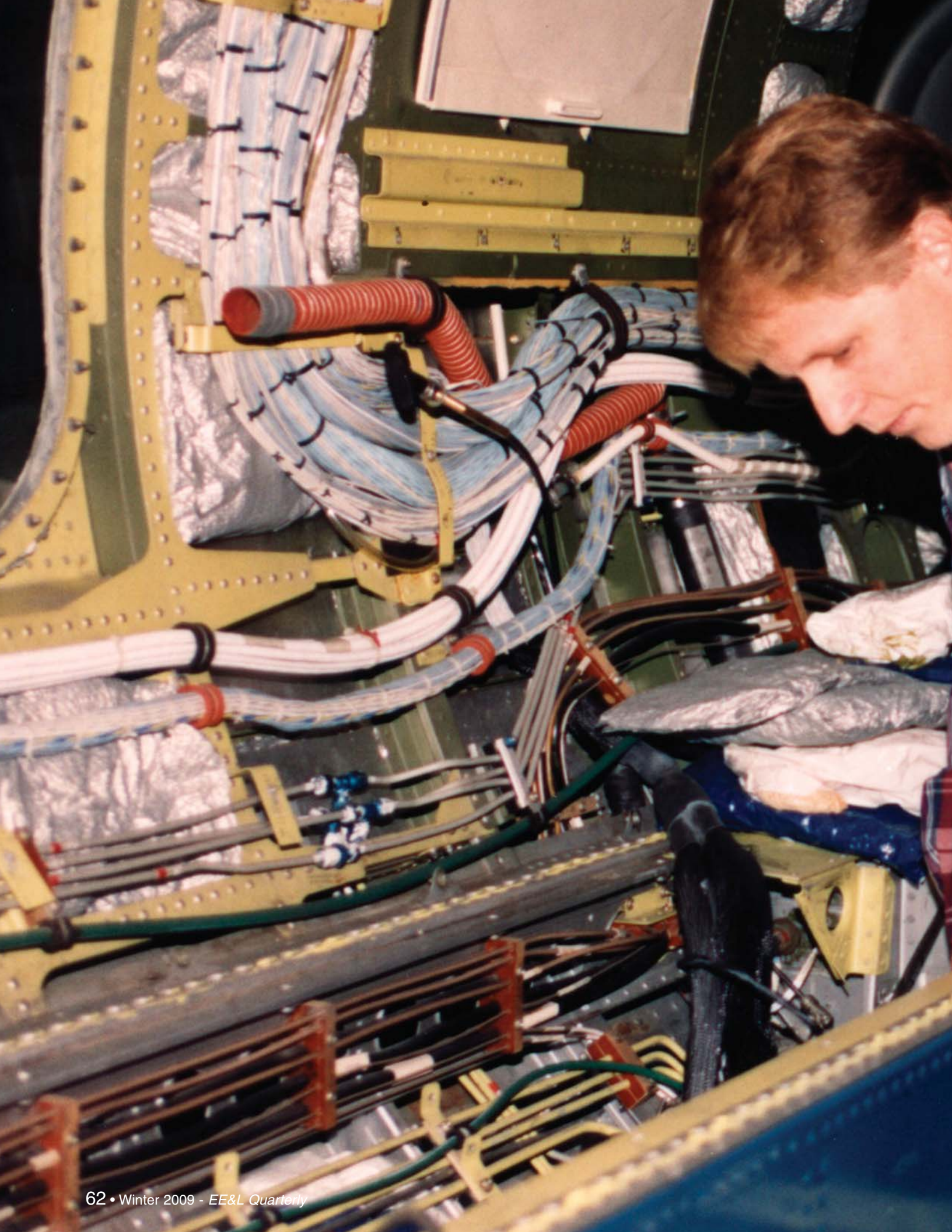
KEEP A

Crews from Coast Guard Air Station New Orleans work to prepare a HH-65C rescue helicopter for Hurricane Gustav.



Coast Guard engineers have been tackling design problems and making sure resources are readily available since they began working as civilian employees for the Coast Guard. There are some 8,000 civilian members -- 2,000 of whom are paid with non-appropriated funds -- located in 100 different geographical locations and representing more than 280 different occupations. Their contributions are essential in supporting the Coast Guard mission. U.S. COAST GUARD PHOTO

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CLEVELAND - Information Technology Specialist 3rd Class of Electronics Detachment Cleveland and a crewmember of HMCS Charlottetown installed siding on a house in eastern Cleveland for Habitat for Humanity, Thursday, Sept. 11, 2008. Members of the Ninth District and the Charlottetown volunteered at two worksites finishing siding and insulation for houses in the Cleveland area. While in port, the Charlottetown and the Coast Guard joined forces for several events, including a panel discussion on Canada-U.S. Security and Defense Cooperation at Home and Abroad. Photo by Petty Officer Bill Colclough/U.S. Coast Guard.

Petty Officer 2nd Class Gregg Merritt (left) and Petty Officer 2nd Class Steven Massey (right) test a communication service monitors signal using an oscilloscope. The o-scope allows electronics technicians to see the signals of their equipment. Coast Guard photo by PA3 Ayla Stevens.

BATUMI, Georgia (Aug. 27, 2008) - U.S. Coast Guard Seaman Tyler Lewis and U.S. Coast Guard Seaman Keri Myers assist a Georgian pier worker as a pallet of humanitarian assistance supplies is transported off the U.S. Coast Guard Cutter DALLAS (WHEC 716). DALLAS arrived with more than 76,000 pounds of humanitarian supplies to be delivered to the people of Georgia in response to the request of the government of the Republic of Georgia. DALLAS is part of Combined Task Force 367, the maritime element of the U.S. humanitarian assistance mission to Georgia. U.S. Navy photo by Mass Communication Specialist 3rd Class Eddie Harrison.

CGC EAGLE - Fireman Sasha Baker works on the main engine of the Coast Guard Cutter Barque EAGLE. The EAGLE relies on its powerful engine to propel it over the sea in times when there is little to no wind. Official Coast Guard Photo by Petty Officer Second Class Shawn Eggert.

NOV 15

America Recycles Day

www.americarecyclesday.org

USCG headquarters

For more information contact:
The Office of Environmental Management (CG-443)