United States Coast Guard Systems Times

Fall 2004

U. S. Coast Guard Systems Times

Working Today to Challenge Tomorrow

U. S. Coast Guard Systems Times

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Articles should be about 500 words long; however, C4 and engineering specific articles can be up to 2,000 words. To have your article considered for publication, photo(s) must accompany each article. Articles can be submitted by FedEx in hard copy and/or in Microsoft Word on a 3.5 disk, CD, or e-mailed electronically. Please submit original photographs and graphics. All slides, photos, graphics and illustrations should be in color where possible. Please include **by-line** when submitting article. Articles without **by-lines** will not be considered for publishing. Let us know if you want your photos and graphics returned to you. Submit inquiries, letters, articles, and photographs to:

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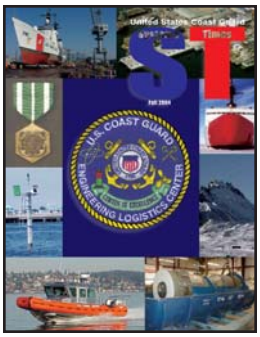

On the Cover: *Center: ELC's Logo. Pictures around the logo depict a small sampling of ELC's customers and functions. Clockwise from top right: CG Yard's materials are supplied from ELC's retail inventory; ELC stocks Polar Class insurance spares; an Alaskan LORAN station depends on ELC's Lab for repair of system spare parts; WHECs and Polar Class use FT4A gas turbines overhauled by ELC; the RB-S acquisition project was supported by ELC naval engineers; ATON materials are stocked, stored and issued by ELC; CG-unique pennants and flags are procured and issued; the surface fleet relies on ELC for many hull, mechanical and electrical (HM&E) spare parts. Cover design concept by Judith LaNore.*

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***On the Back*: HIGHLANDS, N.J. -- Nicholas Cacia, 6, sleeps on the shoulder of his father Chief Petty Officer Frank Cacia shortly after his father arrived in Sandy Hook, NJ on board the U.S. Coast Guard SAILFISH April 09, 2004. The SAILFISH, a 87-foot Coastal Patrol Boat with a 10-man crew now home ported in Sandy hook, NJ, is one of the Coast Guard's newest weapon against terrorism and is permanently assigned to protect the coasts surrounding New York, New Jersey. USCG photo by PA1 Tom Sperduto.**

From the Chief Engineer

Greetings:

Welcome to the Fall 2004 Issue of the *Systems Times*. It has been a year full of challenges and fun, highlighted by the importance of our contributions to the Commandant's areas of emphasis -- People (Intellect), Readiness (Infrastructure) and Stewardship (Information). We have examined our readiness as reflected by infrastructure, in articles about the Aircraft Repair and Supply Center (ARSC); Maintenance and Logistic Commands (MLCs), the Yard, C4&IT, and in this issue we explore the Engineering and Logistics Command (ELC).

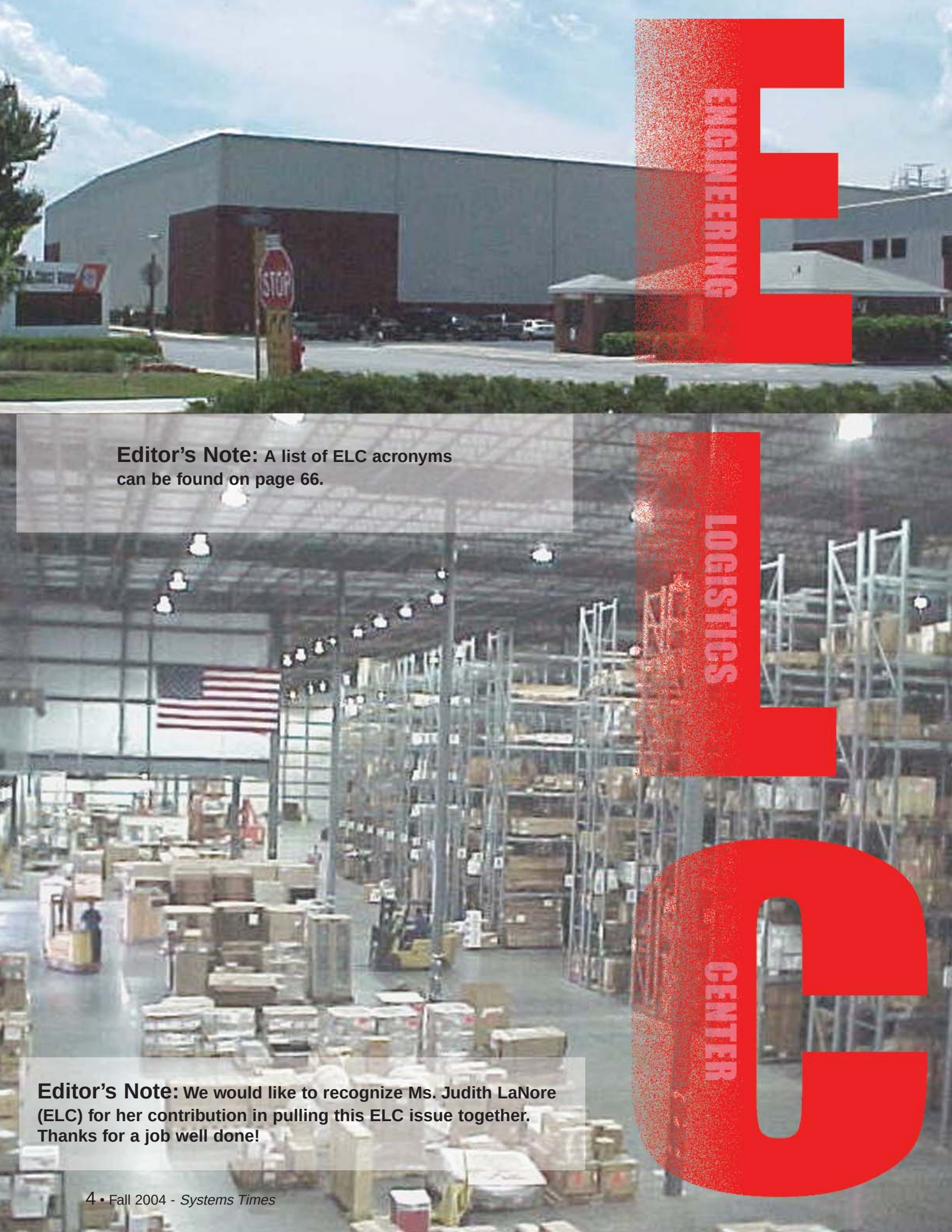
In particular, the articles in this issue describe the critical work that must be done to ensure we sustain operational excellence, enhance mission capability and maintain our Coast Guard assets in the highest state of readiness commensurate with available resources and our logistics system. As a "Center of Excellence," the ELC is the repository of our engineering subject-matter expertise and logistical storehouse for critical Coast Guard unique items, among countless other functions essential to providing service-wide engineering and logistics support. These articles make it readily evident why optimizing engineering and logistical support activities keep our operational assets capable of fulfilling our motto as our nation's "Shield of Freedom."

Today, the Coast Guard is operating in an uncertain and complex environment. It is a period in our history that truly challenges our creativity. It is a time when everyone must lead change and adapt to rapid change. Leadership sparked by enthusiasm, energy, hope and a clear sense of moral purpose must guide our collective change. We must build strong, close relationships, create and share knowledge and possess the capacity to forge consensus. I believe, the ELC demonstrates all of these qualities. These articles clearly reflect this as does the past eight year journey when Supply Center Baltimore, Supply Center Cutis Bay and key parts of headquarter's Naval Engineering merged to form today's ELC.

These *System Times* articles provide a deeper appreciation for what is required from support activities to maintain the requisite infrastructure and systems in a high state of operational readiness. Currently, finding the appropriate balance among investments in aging legacy assets and making investments in new Deepwater assets; organic capability and outsourcing to deliver operational excellence at the lowest total ownership cost is our most vexing challenge. In the end, it is all about enhancing operational effectiveness through sustained engineering support excellence.

I want to express my genuine appreciation for the commitment, dedication and hard work everyone in the support community invests everyday. I can tell you that your accomplishments are truly outstanding. Please keep up the great work and keep the systems that protect our Homeland running.

Erroll M. Brown RADM, USCG
Assistant Commandant for Systems
"Chief Engineer"



Editor's Note: **A list of ELC acronyms can be found on page 66.**

Editor's Note: **We would like to recognize Ms. Judith LaNore (ELC) for her contribution in pulling this ELC issue together. Thanks for a job well done!**

THE ENGINEERING LOGISTICS CENTER

CAPT Kevin P. Jarvis, USCG
Commanding Officer

CAPT Kevin P. Jarvis

Welcome to this Engineering Logistics Center (ELC) focused edition of the *System's Times*. As the ELC's Commanding Officer, I'm very proud and humbled to be associated with the military and civilian professional employees that continually prove the ELC's intrinsic value to the Coast Guard, the Department of Homeland Security and the Nation. Since assuming command a little over a year ago, these professionals have collectively demonstrated to me through their daily actions, an unmatched and sustained level of commitment to our mission statement that places you, our customers, at the forefront of everything we do.

Specifically for the operational units, we fully understand and appreciate the importance of your daily mission demands. Moreover we acknowledge the critical and enabling support role we provide both you and your other direct support organizations in meeting these operational demands. In what I firmly believe to be the consummate customer focused command, we're continually trying to improve our very detailed internal processes to ensure we can repeatedly provide you all with world class engineering and logistic support. In this regard, I know we're not perfect, but based on my personal review of all field submitted Reports of Discrepancy (ROD), Quality Deficiency Reports (QDR), customer feedback reports and other process measures, I know we're within reach of achieving this lofty goal in many support areas. That said, I fully realize that these indicators may not be a complete or an accurate reflection of your ultimate assessment of our effectiveness and responsiveness to your logistical needs. It's this individual unit assessment of our product and the critical matching of your expectations with our capabilities, that's most important to the ELC. After all, if in your eyes, we're missing the mark, it doesn't matter what we think of ourselves; we've flat out failed to support you.

As you read each of the following articles, it's my sincere hope that you gain a greater appreciation for what daily performance and organizational capability this command provides the Coast Guard. With such an expansive and diverse customer base, I know some of you will evaluate individual articles as "interesting, but not important to me." Alternatively, others may glean those necessary "information jewels" which enable a better understanding and insight of not only the how, but why the ELC does what it does. Regardless of the "reader's" scenario, all the articles will provide valuable process or product related information. With this being my second ELC assignment, I'm very cognizant of the sometimes pervasive and inaccurate logistic related "urban legends" that are linked to the ELC. I've also come to realize that most are based primarily on either the uncertainty of what we do and how we do it, or what we're responsible for. As a result, one of my personal priorities is to more accurately portray and establish a better "fleet" understanding of this very complex, process integrated and customer focused command. In that regard, I believe this edition of *System's Times* is an excellent step in the right direction. If after reading this edition, you either disagree or are still unsure of the ELC's roles, responsibilities and how we accomplish them, please give me a call or send me an e-mail; I'm in the Global. Try as we might, it's very difficult to fix what we don't know is broken. Thanks, enjoy this edition and Semper Paratus!

ELC HISTORY

-- As Seen by the ELC's Executive Director

by Michael Healy

Michael Healy

As the Executive Director (XD) of the ELC, I fill the role of what traditionally would be staffed with an Executive Officer. I'm a civilian and my position is not military for several reasons, the most important of which is continuity. The ELC was formed eight short years ago in June of 1996, and we are already on our fourth CO. So, it appears the civilian XD continuity logic has some merit. At least, I'd like to think so.

I've been the XD since the stand-up of the ELC, so I thought I'd provide some history of just how the ELC came to be and some small idea of how we plan to embrace change in the future.

The concept of the ELC has been around since the mid-1980's when it was originally envisioned as the Fleet Logistics Center. The general idea was to consolidate many of the logistics functions that were being accomplished at several activities into one integrated center of excellence for all non-aviation Coast Guard customers. One-stop-shopping was the terminology used to express the vision of what the outcome of this organizational change should be. A group of senior leaders created a boilerplate decision memo that the Chief of Staff signed August of 1992. That began the planning process for this new organization. The old office of G-E (now G-S), specifically the Logistics Management Division (G-ELM, now G-SL) was tasked with oversight of the planning efforts to pull this reorganization together.

We had some guiding principles that led to the establishment of the ELC. We had just completed the development of the Logistics Concept of Operations (CONOP), which later became the Engineering CONOP or ECONOP which is still in force today. That important document described all of the roles and responsibilities that the entire engineering and logistics community still follow. I was lucky enough to have been on the team that put that first CONOP together.

While many other planning teams and sub groups were formed to put the planning steps in motion for the ultimate stand up of the ELC, I'd like to think the most important was the advent of the ELC Business Process Redesign (BPR) Team that was chartered in early 1993 to plan the entire supporting structure of what the new center would look like and the processes that would be controlled by the Center. I was also lucky enough to have chaired this team's year-long efforts. A lot of other activities were occurring at the same time that required stellar alignment to pull the entire strategy off. For example, early in 1993, Supply Center Brooklyn (SCB) was moved to the Baltimore area from Brooklyn, New York to allow for consolidation with the ELC at a later date. SCB was for a time, Supply Center Baltimore and continued to manage all of the Coast Guards Electronics supply and warehousing functions. At the same time, an Integrated Systems Plan was being developed to ensure that the information systems would be moving along in developmental stages coinciding with the reorganization of the Center, melding 27 stove piped systems into one single operating domain. That plan was put together under the auspices of the System for Automation and Integration of Logistics (the SAIL program), that went on to become FLS and ultimately was integrated with the Vessel Logistics System that is the overarching structure of the Naval Engineering and Logistics information system that we use today.

The ELC BPR Team was made up of representatives from all of the organizations that were envisioned to become part of the new Center, as well as its major customers and partners. Both MLCs, as well as G-A, all of the HQ Engineering office sub components, Supply Center Baltimore and Supply Center Curtis Bay (SCCB) that managed all of the HM&E systems for the fleet, were involved. We reported to a level 06 Guidance Team that represented the same parts of the Coast Guard as the team members.

One year to the day from the signing of our charter (on time and within cost, I might add) the BPR QAT reported on the final product, which included an "as-is" assessment, a "to-be" model, a new Business Model with process flow diagrams, as well as a proposed organization structure and a Plan of Action and Milestones for the actual 2-year ELC stand-up process. The Guidance Team accepted the plan without change and we began to make the ELC a reality.

Today, the ELC is a 500+ person Center of Excellence that manages a good part of the engineering and logistics support for the Coast Guard Fleet and Shore communities. We ultimately migrated all of the functions being performed by Supply Center Baltimore, Supply Center Curtis Bay, most of the HQ Naval Engineering functions, some parts of the old G-T (electronics) functions in HQ and shortly after stand-up in 1996, we merged the repair functions of EECEN in Cape May into our equipment business line. Suffice it to say, the ELC organization and process development was not just as simple as moving all of the predecessor organizations pieces under one roof. We believe the BPR methodology delivered a customer focused, process oriented solution that is better than the individual organizational pieces and stove piped support systems of the past. Of course there's always opportunity for improvement, and our Quality Program is constantly pushing the envelope in that area.

The flexibility and synergy that the ELC has brought to the Engineering and Logistics community has shown great improvements in quality, service and cost to the Coast Guard in the past eight years. We truly are doing more now with less resources, actually around 16% less people than we had in the predecessor organizations, and our measures of effectiveness have shown improvements in all areas. The ELC is a change advocate and has evolved to support different processes and commodities during it's first eight years and stands ready to further support the future growth of the Coast Guard. For example, we have just taken over the CMplus (Configuration Management Plus) program and will be responsible for future system deployment and the care and feeding of the CM Field Unit tool. Whether in quest of the Integrated Deepwater solution or the rest of the non-Deepwater Fleet and Shore community, the ELC is actively involved and participating in major acquisition projects and legacy sustainment programs as well as our new homeland security missions.

As you read in detail some of the things we are actively involved with in this issue of the *System Times*, keep in mind that we are focused on becoming workforce multipliers and value add contributors for the "Deck-Plate-Sailor." If we're not helping you to do your job more effectively and efficiently, we need to hear from you. We have many ELC alumni in the field now and we hope they carry that message as well. If something appears to be broken in the logistics system, let us know about it and we'll do our best to find a solution set that helps you out.

Opportunities at the ELC

by
SKCM Mark Ferguson

SKCM Mark Ferguson

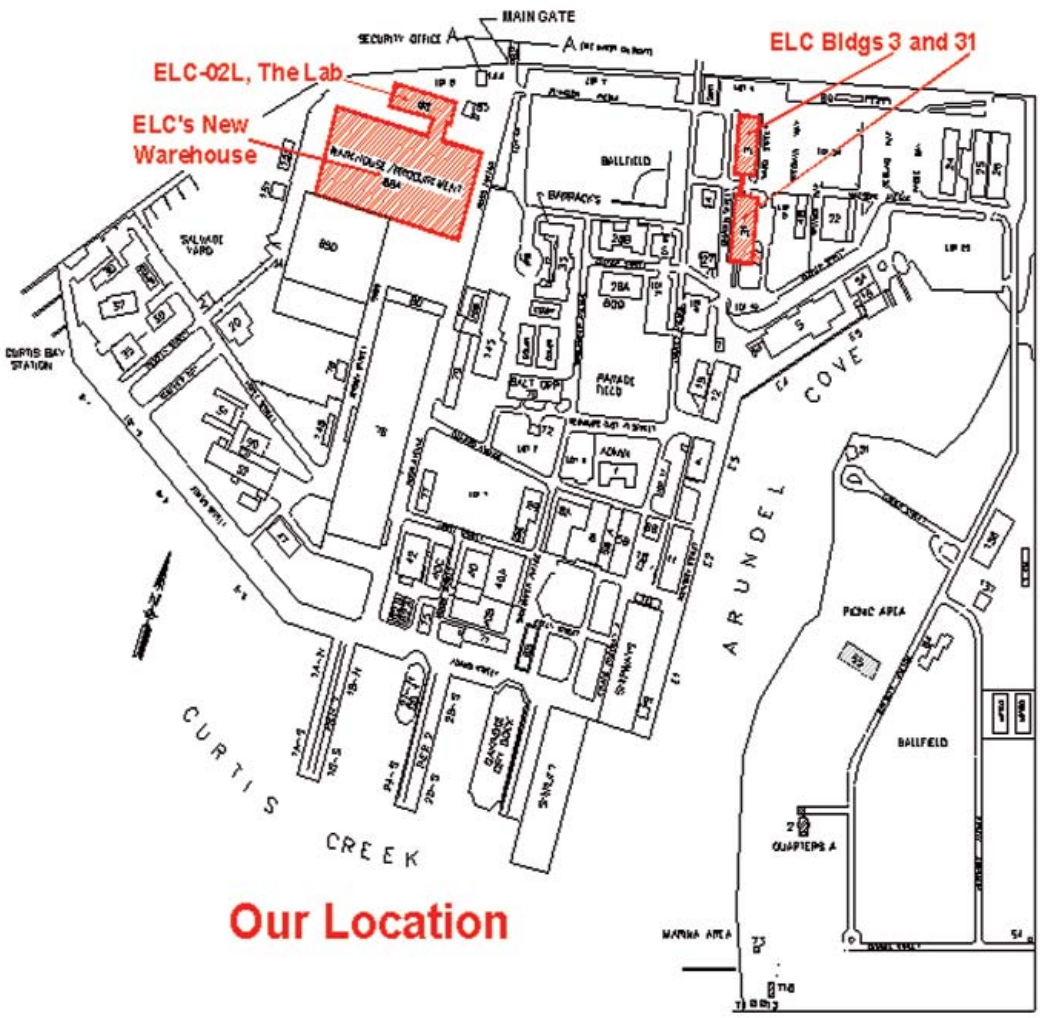
As Command Master Chief for the ELC, I serve as the Command Enlisted Advisor to Active duty/Reserve and Civilian personnel. My day-to-day focus is on our enlisted personnel both current and prospective. The ELC is assigned a variety of rates ranging from DC, EM, ET, IT, MK, SK to YNs.

Most personnel assigned to the ELC live on the economy, due to the lack of available military housing. But a small percentage of personnel are eligible for Coast Guard leased housing and must submit an application to the local housing office. Government housing is available for families at nearby Ft. Meade, the Naval Academy in Annapolis, Maryland, and through Naval District Washington. Single personnel are required to reside at the CG Yard Barracks.

The CG Yard has a gym, pool, clinic, exchange, barbershop, guest housing, marina/RV storage, Work Life office and an all hands club. Nearby is Walter Reed Army Medical Center, Bethesda Naval Medical Center, Andrews Air force Base, Ft. Meade and the Naval Academy, each with their own extensive medical, commissaries, exchange and recreational facilities. And there are numerous tourist attractions within the Baltimore/Washington, DC metropolitan areas. If you want to pursue or continue your education, this is the place to be with a wide variety of local, state and private universities offering degree programs for part-time students. The ELC has an Educational Service Officer and is very proactive, assisting in everything from administering End of Course Tests, tuition assistance, educational counseling and college credit assessments. The ELC is a recognized DANTES testing center.

We also have an extensive senior enlisted leadership staff consisting of three Master Chiefs, nine Senior Chiefs and 21 Chiefs. The Chief's mess is proactive in assisting you with your preparations for the Service Wide Exam or other career aspirations. There's room for personal and professional growth, and the opportunity to excel. So, if the option to transfer to the ELC arises, take it and come join us for a tour of duty at the Center of Excellence.

Where are we?



The Engineering Logistics Center is located a mere 36 miles from Coast Guard Headquarters, in the south-east suburbs of Baltimore, Maryland.

From West and South: from Route 95 or 295 north, turn east on Route 695 to exit 1. Bear right on the exit, turn right on Hawkins Point Road, and left into the Yard.

From North and East: from route 95 south, take 695 east, over the Francis Scott Key Bridge. Take exit 1, and turn left at the stop sign, and right onto Hawkins Point Road. Turn left into the Yard.

To get to the Ordnance Road facility (not shown) from the Yard: Turn left on Hawkins Point Road. Turn left on East Ordnance Road. Turn right at the first office complex on the right, and proceed to 707 Ordnance Road, Suite 410.

THE ELC: A Great Place to Work and Live!

by Connie Stevenson
Chief, Productivity Management Office

Connie Stevenson

What really makes the ELC a great place to work is the 545 very talented and diverse employees who work here. Commissioned in 1996, the ELC today is a single command built from various elements of what was then known as ENE (Naval Engineering), Supply Center Baltimore (previously known as Supply Center Brooklyn) and Supply Center Curtis Bay, the old TES office and the EECEN electronics depot level repair function. It more than doubled the size of the largest component command. Presently the ELC has 32 active duty officers and 5 reserve officers. There are 34 active duty Warrant Officers and two reserve Warrant Officers. We have 117 regular duty enlisted personnel with an additional 27 from the reserve component and 328 civilians. Roughly a third of the ELC's workforce consists of military personnel; the remaining two thirds are civilian. Although working with civilians is often a new experience for our military members, they soon learn that they benefit from the continuity the civilians provide. The civilians, on the other hand, benefit from being able to hear first hand how well the fleet feels they are being served and to respond to any concerns by taking steps to remedy and improve our processes.

To encourage the kind of flexibility and commitment to improvement that the ELC expects from its employees, the command offers a choice of working on a flexible work schedule or a compressed work schedule to better allow the workforce to juggle both their personal and professional responsibilities. One of our workforce goals is to help employees grow and to develop a productive work environment. One way we do this is by using creative ways of providing both mandatory and developmental training. The ELC is fortunate to have a full time Training Officer, as well as being located in an area that boasts many institutions for higher learning. The Training Officer administers a variety of programs that can help you get college credit for your work experience. The ELC is currently investing in our people's intellectual capacity as an on-site participant in the National Graduate School.

Eighty-five percent of the civilians employed at the ELC are in white collar jobs and 15 percent are blue collar workers. Sixty two percent of the military at the ELC are enlisted personnel, while 38 percent are officers. The majority of our enlisted personnel are Electronics Technicians, Storekeepers and Machinery Technicians. The officers are primarily in the financial or naval engineering specialties. Overall, the positions (military and civilian) at the command encompass a diverse set of occupational fields; those most commonly represented are Engineers & Logisticians, 23%; Supply Operations and Warehousing, 40%; and Financial & Contracting personnel, 10%. This workforce is responsible for a wide variety of disciplines: these include Hull, Mechanical and Electrical, Electronics, General Supplies, Aids to Navigation, Ordnance, Logistics, General Supply, Yard Support, Warehousing and Physical Distribution, Engineering Design, Naval Architecture, Electronics Equipment Repair and Calibration, Equipment and Platform Configuration Management, Preventive Maintenance, AC&I project and Deepwater support, Procurement and Acquisition, Systems Analysis, Hardware and Software Support, Personnel Management, Training and Quality Management.

The genesis for the stand up of the ELC was a Department of Transportation Inspector General's report in the late 1980's that cited the Coast Guard for ineffective management of Naval Engineering logistics. The challenge to overcome these problems began in earnest. Planning teams immediately recognized the value of co-locating and centralizing engineering support services and logistics support services for hull, mechanical, electric and electronics. The ELC brought together maintenance, engineering and supply management with configuration management used as a baseline for our products and processes.

The ELC went from concept to reality over a period of about five years. To achieve the desired efficiencies and effectiveness, the original plan called for all members of

the command to be housed in a "to be built" 100,000 square foot building on the Coast Guard Yard. That has not yet happened. Instead, for the last seven years the ELC has resided in three different counties in Maryland, spread out over a 23 mile driving area. Sixty one percent of our workforce has been housed in the buildings previously occupied by Supply Center Curtis Bay at the Coast Guard Yard. About a third of our workforce occupies a commercial building about 2½ miles from the Coast Guard Yard. The remainder of our workforce has worked in a commercial warehouse in Columbia, Maryland; however, this past year one of our major objectives was realized with the demolition of the old warehouse located on the Coast Guard Yard and completion of a new warehouse, also on the Yard. This new state of the art warehouse is large enough to house most of our 35,000 individual items of supply valued at over $200 million and will reduce the number of ELC geographic sites from three to two.

By bringing together so many disparate commands and business processes, we faced a number of challenges to achieve alignment and integration. These challenges included dissimilar business practices, additional core business, decentralization, a process orientation, increased size and varying cultures, values, expectations, abilities and a lot of a "we/they" mentality. Complicating this was the fact that we were forced to live with three different geographical sites and had responsibility for 21 different buildings.

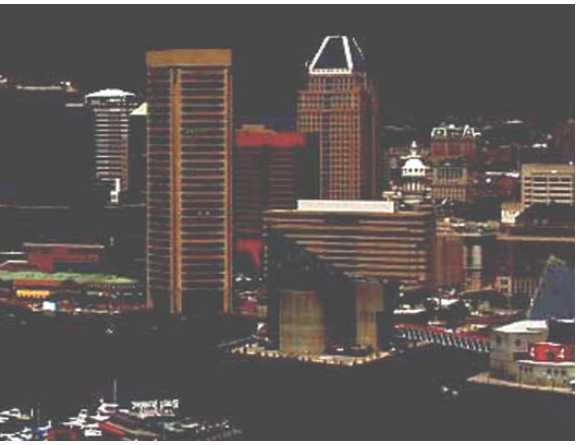
To overcome some of these challenges and to help get everyone on the same page and working together, we sought a disciplined approach to bring the component organizations together, to decrease confusion, to imbed processes in the organization, maximize training opportunities, increase rigor and discipline, provide accountability and credibility, and fit with the principles of teamwork, flexibility and customer focus. We determined that ISO certification was the means by which we could achieve these goals. It is a testimony to the dedication and tenacity of the workforce that in just nine months after the decision was made, the ELC achieved ISO certification … in half the time it normally takes a mature organization to achieve ISO certification. Having recently undergone the transition from the ISO 9001:94 standard to the ISO 9001:2000 standard, the ELC continues to pride itself on the commitment to excellence that its workers continually display.

The ELC considers itself to be a workforce multiplier. We are here to support the fleet. Our mission is to deliver the right parts, information and service support at the right time, place and cost to maximize our customer's operational capability and effectiveness. To ensure that we do that, we have worked hard to imbed our Quality Management System in the culture of the command. This system crosses all ELC functional responsibilities, and is the way we do business here at the ELC and applies throughout the command. We are a team centered organization, working cross-functionally to ensure we are managing the white space of the organization that occurs in a strictly functional organization. The Quality Management System emphasizes the principles of continual improvement, customer focus, measurement and total involvement using a systematic approach. The Quality Management System is comprised of various forums (Executive Steering Committee, Quality Management Boards, Quality Action Teams and Natural Working Groups), additionally, we use a link pin methodology between the forums in our Quality Network to facilitate the flow of communication. Each of the ELC Quality forums has a link pin to another part of the quality network. We also employ Strategic Planning, Branch Planning, ISO 9000 certification and an Internal Auditing Program as part of our Quality Management System. The ELC is strategically minded; we have an operationalized strategic plan, and we have a process that allows us to ensure we are working on the right goals and objectives necessary to improve customer support for the entire Coast Guard Fleet and Shore community that we service. Our Strategic Planning efforts synthesize input from throughout the command using employee surveys and an analysis of strengths, weaknesses, opportunities and threats conducted by our various Branches. Each of our Branches reports to the Executive Steering Committee on a regular basis. This gives each Branch a chance to discuss important issues with the Commanding Officer, the Executive Officer and all the Division Chiefs. We have a cadre of volunteer auditors who conduct the internal auditing program to ensure conformity of products and to continually improve the effectiveness of processes.

The ELC is also extremely customer focused. A key customer service tool we are implementing is a Balanced Scorecard methodology to ensure that measures are not only captured, but also presented and used to identify areas needing improvement. We are also prototyping Activity Based Costing, to ensure that we are able to meet our quality objective of Good Stewardship of our resources.

Good Stewardship of all of our resources starts with good stewardship and leadership of our people. Just as the ELC gives more than lip service to quality management of our products and services, the ELC also gives

more than lip service to recognizing that our people are paramount to our success. We ensure their readiness by requiring each new arrival to the command to be checked in by both the Commanding Officer and the Executive Director as well as other individuals with whom they will need to be acquainted as they tackle their jobs. They are directed toward flow charts, process narratives and desk guides to help train them on their responsibilities and must validate that they have reviewed the most significant instructions which impact them and return that information to the Productivity Management Office. A semi-annual orientation is held to ensure that everyone is aware of what the rest of the Command is responsible for and who the "go to" people are for various issues. We also ensure the Command's readiness to complete its mission through weekly meetings which review personnel issues, and through significant interaction with Headquarters personnel on position and billet management.



Baltimore's Inner Harbor.

On a recent trip down the Inner Coastal Waterway on a 44-foot Motor Yacht with my husband and friends, I encountered a number of Coasties at various ports. As often as possible I would introduce myself and explain that I worked for the ELC. Then I would ask them how well they felt that the ELC was meeting their needs. More often than not, I was met first with a look of incredulity … ("who is this crazy woman"??) … and then a question … "THE WHAT? WHERE'S THAT??" Followed by "NEVER HEARD OF IT."

ELC is an acronym for the Engineering Logistics Center and it is actually a tenant command at the Coast Guard Yard which is located in Anne Arundel County near Baltimore, Maryland. A number of ELC employees and employee wannabes have come up with a great new name for the acronym … they call it the 'Easy Living Center.' And why not … THE ELC IS a great place to live! What makes it so great? We enjoy a large number of advantages that many people working in our neighboring cities of Baltimore, Washington and Annapolis do NOT have ... first among those is free parking for everyone in safe, protected areas. The physical environment is much like that of a college campus. There is a gym/recreation center with swimming pool and basketball court; there are also several baseball and soccer fields, a marina, an exchange, credit union, barber shop, car repair shop, picnic areas, a galley and a club on the main CG Yard complex. These are used extensively to ensure the well being of our employees. Morale events sponsored by the command are plentiful and include Sports Days, intramural sports competitions, picnics/cook-outs, bowling, golfing and day trips to near by skiing venues. There is also an active Baltimore Area Officer's Club which is open to all employees who wish to participate in the monthly luncheon and learn from presentations by different speakers.

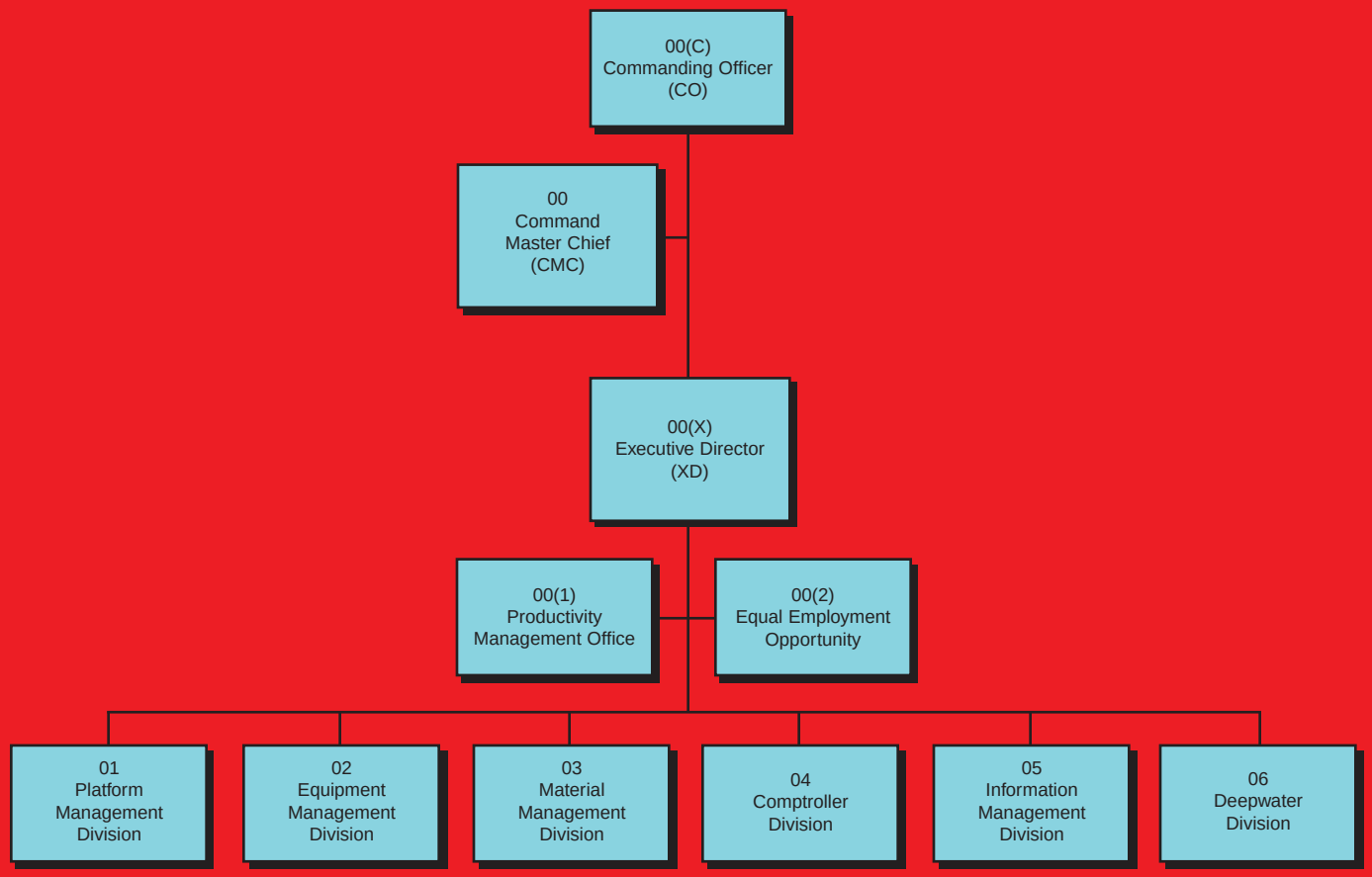
A health clinic at the Yard is also available during business hours. And because the ELC is located in the Baltimore/Washington Metropolitan Area, we have a wide range of medical providers who can provide care for practically any medical condition. These include many military treatment facilities as well as some highly respected civilian medical treatment facilities, such as Johns Hopkins Hospital.

Also available is an on-site Employee Assistance Program (EAP) counselor. The EAP is a professional counseling and referral service designed to help you with your problems on and off the job. It's free, confidential, within the limits of the law and voluntary. Counselors are prepared to help with virtually any issue or problem that may arise (i.e., emotional, relationships, family, alcohol/drug use, job, etc.). For those with financial difficulties, we have a mutual assistance program and financial advisory services to which we can refer individuals.

In addition, we are well situated for people to enjoy an immense variety of activities at numerous entertainment, historical, dining and sports venues during off duty hours. The Chesapeake Bay offers all kinds of water activities, and great snow skiing is only a short trip away. Parents are always happy to know that the public school system is recognized as highly competitive and, for those seeking to expand their minds through additional education, major universities as well as dozens of small colleges and community colleges are plentiful and easily accessed.

"At the center of our values and guiding principles are the ELC employees. They are our greatest asset and determine how we are viewed by our customers. WE ARE WHAT OUR EMPLOYEES MAKE US." This quote, found at the bottom of the ELC Guiding Principles in our Strategic Plan, is testimony to the fact that we realize that we are only as good as the people who work here. To ensure that our people are given the attention they deserve, we've just recently promulgated a Human Capital Strategic Plan based on the President's Management Agenda, OPM directives, the Commandant's direction and our own vision within the Systems' Directorate and ELC. We also recently completed an extensive year long unit self-assessment that benchmarked the ELC against 30 or so of the world's top industry leaders. Our comparison showed us to be a world class center of excellence. This has not come as a big surprise to many of us who work here, because we already knew … the ELC is a great place to work!

ELC Organization



ELC-01, Platform Management Division

by Craig Gibson

CDR Paul Roden

The Platform Management Division (Code 01) is the primary/initial point of customer entry to ELC support. The Division will establish logistics support philosophies for platforms; implement support plans to distribute resources obtained from the (operational) Facility Manager or the Logistics Advocate, as appropriate; develop and recommend policy and guidance to CG Headquarters; prepare, manage and evaluate individual platform engineering logistics programs; manage funds and information for projects; and manage and promulgate configuration and allowance information, including item visibility for designated inventory on all platforms and redistribute to meet operational needs.

The role of the Platform Manager (PM) is defined by the Engineering Concept of Operations, ECONOP (COMDTINST 4100.7). The PM manages the logistics support for a platform during the Sustainment Phase by developing and maintaining necessary support plans. Furthermore, the PM ensures that there is a logistics support philosophy for the platform and coordinates the customers (including Facility and Acquisition Managers) to ensure the platform supports the operational missions.

The PM is responsible for continually evaluating/improving the performance and reliability of the platform. The PM leads cross-functional teams to plan, develop, analyze and recommend configuration changes. Also, the PM is responsible for the configuration data at the platform level.

The ECONOP is not a plan, it is a conceptual view of the optimal state of engineering logistics, and it provides a framework for the development of future business practices and information systems. The ECONOP is our guiding document for outlining how various parts of our organization will work together in providing Integrated Logistics Support.

Division Chief	CDR P. Roden	(410) 762-6162
Asst Division Chief	Mr. C. Gibson	6101
Div Secretary	Ms. S. Adams	6163
Division Facsimile Machine		6085

MICA - Management Information for Configuration and Allowances (MICA) are the documents that were formerly called CALMS. They are platform specific listings of all configuration items. MICA contains all the APLs and AELs and are centrally managed by the ELC.

MANDATORY TURN-INS (MTI) - The process of returning those items that are Not Ready For Issue (NRFI) or "F" condition can be challenging. The MTI process can be an annoyance, particularly if the ELC charged your unit for an item that you have already returned to the ELC. Two-way communications is key to a smooth transaction. To avoid unnecessary inconveniences, see helpful tips provided on page 64.

BILLING ADDRESS CHANGES - The ELC is responsible for maintaining Coast Guard Unit Address information in the DAAS website for all Coast Guard Unit Addresses. It is important for the unit to provide this information to the ELC to maintain their correct address in DAAS. To have a change made, please see helpful tips provided on page 64.

ELC-011, HEC/MEC Branch

by CDR John Bragaw

The ELC-011 Branch is responsible for the logistics support for 378' WHECs, 270' and 210' WMECs as well as the WIX-327, USCGC (Coast Guard Cutter) EAGLE.

Branch Chief	CDR John Bragaw	(410) 762-6164
270' WMEC	LT Baird	6615
378' WHECs	CWO P. Hand	6605
210' WMECs	EMCS Miller	6608
Logistics Mgr	CWO O'Sullivan	6610
Logistics Mgr	Mr. W. Schroter	6194
Config Data Mgr	Ms. Sherry Pietila	6131
Config Data Mgr	DCC Huelsenbeck	6104

210'/270' MEP (Mission Effectiveness Project) - In 2003, the sustainment community recognized that, without substantial modernization, the existing HEC/MEC fleet would not remain mission capable until replacement by Deepwater assets. To identify and prioritize the sub-systems most in need of modernization, a conference was hosted for the 378' WHEC, 270' and 210' WMEC cutter classes. To help obtain funding for the project, ELC-011 presented the conferences' results to the Integrated Deepwater Solutions Systems Engineering Integration Team (IDS SEIT) concluding that the MEP must be fully funded and should commence immediately. These efforts, combined with those made by G-SEN (Office of Naval Engineering) and others, led IDS to release just under $7 million to fund development of the MEP. The draft documents can be reviewed at http://cgweb.elcbalt.uscg.mil/MEP/MEP.htm.

On … and … Over The Horizon - The CB-OTH dramatically improves a cutter's operational capabilities to perform Coast Guard missions. Unfortunately, the CB-OTH will not cradle in the existing crescent davit system. A new dual point davit system manufactured by Welin-Lambie is to be installed on all 270' WMECs and 378' WHECs. Installations on CGCs BEAR, MOHAWK, TAHOMA and SENECA are complete. Installation of a prototype on the first 378' WHEC is projected for Fiscal Year 2005 (FY05), pending the resolution of discrepancies identified during install.

USCGC EAGLE to Perch at CG Yard - CGC EAGLE is scheduled to begin a drydock availability at the Coast Guard Yard in October 2004. In addition to various maintenance tasks and ship-initiated improvements, Engineering Changes to upgrade the Collection Holding Tank (CHT) tank level sensor (DARTS Case file #295-02-007), and to modify the chill water system (295-03-002), and the grey water tank (295-02-008) are to be completed.

Demand Forecasting - ELC-011 Logistics Managers participated in a Critical Underwater Appendage Government Furnished Equipment Quality Action Team. As a result, ELC-011 now provides a forecast of need for long-lead parts used during drydock and other availabilities.

ELC-012, Patrol Boat Branch

by LCDR Jon Gage

87' WBP Patrol Boat.

The Patrol Boat Branch (012) is responsible for the life cycle engineering and logistics support for the 87' and 110' Patrol Boats (WPB) in the Coast Guard. The platforms supported by the branch are in various stages within their prospective life cycles. The platform life cycle stages range from acquisition, initial sustainment and mid life sustainment. Additionally, the Branch has a secondary responsibility for oversight of the Mobile Support Unit (MSU); see article on page 23.

The acquisition engineering and logistics services provided to the 87' fleet include receipt and review of Provisioning Technical Documentation (PTD), preparing Letters of Promulgation for Management Information Configuration Allowance (MICA) manual publications and the establishment of unit configuration files in the Master MICA File (MMF).

Initial and mid-life sustainment engineering and logistics services provided includes providing technical support, the creation and publishing of Engineering Changes (EC), life cycle management, and serving as the fleet wide POC for fleet wide problems, the development of solutions through the Engineering Change process and the receipt and processing changes from units to the MMF. Additional sustainment engineering and logistics functions also include the coordination of Cutter Support Reviews (CSR) and Integrated Logistics Support Management Team (ILSMT), the development of Commodity Management Plans (CMP), the coordination of GFE for availabilities with both MLC(s) and the participation in Natural Working Groups.

WPB platforms managed include 56 (soon to be 65) 87' WPB(s), forty-one 110' WPB(s) (currently eight are being converted to 123') and as of 1 October 2004, five 179' WPCs. Information on these projects can be found at the ELC website or by contacting the Patrol Boat staff listed below.

87' WPB Projects - Over the last year, the 87' WPB Section has been busy providing support to the 87' fleet, which included hosting the first "in-house" ILSMT and CSR. From this highly successful conference, over 65 action items were identified and resolved including 30 CMPs. Every action directly resulted in better logistical support to the units and eased the transition of the first 50 hulls from acquisition to sustainment. Additionally, eight (8) ECs were published to direct the correction of significant engineering issues.

CWO Hauke has also taken the lead on preparing a long-term solution to ensure that support is in place for the MTU W5 "top-end" maintenance. This plan will provide the needed equipment to support the W5 maintenance requirements as well as laying the foundation for future W6 "center section" maintenance.

110' WPB Projects - The 110' WPB Section has been equally busy supporting the 110' WPB fleet. Support has included the publishing of ten (10) ECs and five (5) additional changes for the deployed 110s in the Persian Gulf. As the 110' WPB fleet ages, the logistical support has become more difficult and has required over 31 CMPs to be generated and maintained to ensure there is sufficient stock on the shelves. This section has been very proactive with establishing "demand forecast" estimates to ensure sufficient supplies are maintained for the years to come.

The 179' WPC Project - The Coast Guard will be taking up to five 179' WPCs from the Navy on 1 October 2004. ELC 012, under tasking from SEN, lead survey teams to each vessel to document the condition of each WPC. Additionally, 012 staff posted all the known information about this project to the PC 179 website. Please visit this web page for information on this project.

Branch Chief	LCDR J. Gage	(410) 762-6189
Logistics Manager	Mr. M. Peterson	6152
TSM 87' WPB	CW0 P. Hauke	6033
TSM 110' WPB	CWO B. Kist	6132
110' WPB LM	LTJG Bridges	6648
Project Officer 87' WPB	CWO O. Artis	6143
Configuration Data	MK1 P. Pellegrini	6135

ELC-013, ATON Branch

by LCDR Marty Sarch

The ELC-013 Branch is responsible for logistics support for 85 cutters and 10 different classes made up of WLBs, WLMs, WLICs, WLIs and WLRs. Currently we are focusing our efforts on completing over 30 outstanding Engineering Changes, forecasting long lead material for drydock and dockside availabilities, managing the River and Construction Tender Maintenance and Sustainment Availability (MSA), and completing the Integrated Logistics Review for the "A" and "B" Class WLB-225s. Additional information on any of these projects can be found on the ELC website or by contacting the ATON Branch staff directly:

Branch Chief	LCDR Marty Sarch	(410) 762-6061
Logistics Manager	Mr. J. Shorter	6004
WLIs, WLICs, WLRs	LTJG M. Jenny	6128
WLBs, WLMS	CWO R. Biagiotti	6139
WLB Acquisition	CWO S. Bolen	6619
Configuration Data	MK2 A. Kaminski	6040

River and Construction Tender Maintenance Sustainment Availability - The Inland River Tender (WLR) and Inland Construction Tender (WLIC) Maintenance Sustainment Availability (MSA) project is a program aimed at meeting the Coast Guard's requirement to maintain Aids to Navigation (ATON) along the nations internal waterways by preserving the operational readiness of the aging inland cutter fleet. The current plan is to complete a $50-$80M equipment recapitalization project at the CG Yard for the entire fleet. The first "prototype" cutter is anticipated to arrive some time after 15 April 2005, and will be out of service for one year. A matrix team that includes staff from D7, D8, D5, MLCA, G-S, RLC, CG Yard, Groups and cutter EPOs have been actively engaged on the project since its kick off in July 2003. The Office of Cutter Forces, G-OCU, is the project's sponsor.

The small ATON cutter fleet, which includes the 65' WLR, 75' WLR, 75' WLIC and 100' WLIC classes, services Aids to Navigation along the Mississippi River and its tributaries, as well as the Atlantic Coast, the Gulf Coasts and the Intercoastal Waterway. These cutters maintain approximately 49% of all of the nation's fixed and floating aids to Navigation. With an average age of 30 to 40 years, this fleet is reaching the end of its designed service life, just as congestion on the nation's highways and railways is making commerce along the interior waterways more critical to the economic vitality of the nation than at any other time in recent history.

Inland River Tender (WLR).

In recent years, the outstanding personnel assigned to these units have seen and responded admirably to constant increases in unplanned maintenance on nearly every piece of equipment, but are faced with a continuously decreasing availability of spare parts. The most critical system is the Caterpillar 353 main propulsion diesel engine, which has become technically obsolete. Tasked with replacing the obsolete D353, this project plans to capitalize on technical advances in marine diesel engine industry that will allow installation of a greater horsepower engine in the same footprint as the current engine. The new engines will mitigate maneuverability restrictions for tenders in heavy current.

Additionally, nearly every major system on board has exceeded its planned service life resulting in more frequent casualties and driving up the costs of maintenance and repair. Fire and flooding alarm systems are either grossly inadequate or non-existent. The engine room fire suppression system is antiquated and there is no galley fire suppression system. The crews' quarters and living areas are far below current standards for habitability, and safety surveys have identified asbestos, lead paint and PCBs throughout the vessels.

Extending the normally scheduled drydocking availability period to approximately 40 weeks to accomplish the engine renewals, also allows an opportunity to address areas of concern, including electrical power generation, hazardous material, fire protection, habitability and environmental impact. Renewal of obsolete equipment across the entire class will result in a standard configuration that is supportable by ELC, which will reduce operational time lost to long lead times for procuring hard to find repair parts. Each cutter will leave the CG Yard with new, supportable equipment and a logistics support system that will ensure the continued efficient and economical operation of the inland river/construction tender fleet.

ELC-014, Standard Boats Branch

by CWO Tom Spaid

The Standard Boats Branch supports a rapidly growing fleet of over 650 boats. To support such a large and diverse fleet, the Branch is broken down into several support components. The Type Support Managers (TSMs) are responsible for maintaining configuration management, providing technical support, creating and publishing Engineering Changes, and managing the life cycle of equipment.

The Project Officers (POs) support the boats while in the acquisition phase and are responsible for coordinating all configuration changes. In addition, the PO receives, reviews, and forwards Provisioning Technical Data (PTD) to the provisioners. Buy lists for ELC system stock and on board repair parts are derived from the PTD. The PO performs quality review of those buy lists which are documented in the Management Information for Configuration and Allowances (MICA) Manual.

When a platform's warranty period has expired and it enters the sustainment phase, the responsibility of configuration management at the ELC is handed over to the Configuration Data Manager (CDM).

The Branch Logistics Managers initiate configuration and allowance changes, coordinate printing and delivery of the MICA Manuals, and provide support to Ship Structure and Machinery Evaluation Boards (SSMEBs).

As Coast Guard operations and boats evolve, Engineering Changes and their timely submittal are critical to fleet sustainment. An Engineering Change Request (ECR) must be forwarded through the prototyping unit's chain of command to the Configuration Control Board (CCB) with a copy sent to the ELC. The ECR is entered into a database where it is tracked. Once the CCB receives the ECR, the Board determines if the concept is worth pursuing. If approved, the ELC authorizes a prototype to reduce risk and verify the success of a concept prior to full deployment.

Prototypes for the 41' UTBs are usually performed and evaluated at the Boat Forces Center (BFC) while prototypes for the 47' MLBs are usually done at the National Motor Life Boat School (NMLBS). As the prototype performance period ends, a Prototype Evaluation Plan (PEP) that contains pertinent installation information will be sent to the ELC TSM. If the prototype is successful, the TSM collects the detailed information from the Boat Engineering Branch at the ELC and the evaluating unit. This data is drafted into an EC format and sent out for "concurrent clearance." When approved, the TSM will post the promulgated EC on the ELC web page for fleet wide visibility. If the CCB denies the ECR or the prototype fails, the ECR is disapproved and returned.

41' UTB.

Due to the high cost of modifying platforms, only ECRs necessary to meet operational commitments, correct crucial safety problems, or which result in significant cost savings are likely to be approved.

To maximize our ability to serve the fleet, the 014 Branch has recently purchased the MAESTRO Finite Element Analysis Program. Data from the 47' MLB as-built drawings was used to create a global MAESTRO model. The MAESTRO model was loaded to duplicate hull failures similar to those experienced in the field. A preliminary analysis of the model was conducted using design loads for a failure prediction. Data from the model, loads, assumptions, and results (deformations, stresses) were documented in a final report. The model can perform a failure analysis to determine design change success without actually modifying a boat. This model has already paid for itself through time and money savings. (Also see ELC-024 article.)

Branch Chief	LCDR L. Hersl	(410) 762-6111
47' MLB, 41' UTB	CWO M. McHale	6188
25' PSB, 55'ANB	CWO Z. Elliott	6194
49' BUSL	CWO T. Burkee	6194
(PO)RB-HS, RB-S	CWO J. Carter	6184
(PO)RB-M	CWO T. Spaid	6191
Logistics Mgr.	MKCS Soucheray	6181
Logistics Mgr.	MKC W. Nickel	6134
Logistics Mgr.	MKC E. Vazquez	6147
CDM	MK1 J. Hedges	6187
CDM	MK2 D. Greep	6182

ELC-015, Icebreaker Branch

by ENS Rich Mills

The Icebreaker Branch provides support to some of the most specialized cutters in the fleet. In addition to the 114 open Engineering Changes, the branch is managing two significant engineering projects, one is the 140' WTGB Maintenance Sustainment Availability (MSA) and the other is the Polar-Class Service Life Extension Project (SLEP). Other Branch projects include the development of a Life Cycle Maintenance Plan (LCMP) for the CGC HEALY and supporting the production and deployment stages of the Great Lakes Icebreaker (GLIB).

It is our responsibility to ensure that logistical support is being given to all operational units. The Icebreaker Branch strives to provide the fleet with the integrated engineering and logistics support necessary to make them successful.

140' WTGB-MSA - With over 20 years of service, the 140' cutters are quickly approaching their projected end of service life. For this reason, members from the ELC, MLCA, Headquarters, D1, D9 and the fleet are planning a Maintenance Sustainment Availability (MSA) to keep the cutters operational for an additional 15 - 20 years.

A Ship Structure and Machinery Evaluation Board (SSMEB) found the cutters' hulls to be in good structural condition; however, many of the systems are nearing obsolescence. Some of the systems identified for renewal or refurbishment are the Main Diesel Engines (MDE), main motors, and the Main Propulsion Control and Monitoring System (MPCMS)

The MDEs have plagued the fleet with stack oiling and excess exhaust opacity. These problems are being addressed by an OEM retrofit that should significantly reduce both. The main motor and generators, on the other hand, are still serviceable and require only routine overhaul.

The MPCMS is outdated, and replacement parts and maintenance have become increasingly challenging. It will be redesigned to upgrade from an analog system to a digital system. A new bubbler location is planned, as well as some habitability improvements.

All proposed work will be scheduled for completion at the Coast Guard Yard. The intent is to complete one to two cutters a year beginning in Fiscal Year 2006 (FY06), at a proposed cost of approximately 8.5 million dollars per vessel.

399' WAGB-SLEP - The Polars are experiencing similar difficulties due to age and increasingly more severe Antarctic operating condition. A 2002 SSMEB found the hulls in very good condition, but determined the propulsion and auxiliary systems were deficient. In a cooperative effort between HQ, ELC, MLC, NESU Seattle and the fleet, studies are being conducted to determine the scope of SLEP.

The Coast Guard Cutter KATMAI BAY (WTGB 101) was the first of nine 140-foot Bay Class tugs built for the Coast Guard's domestic icebreaking mission.

The intent is to complete one vessel at a time, with an availability period of up to 18 months beginning in FY07. With the completion of the Polar SLEP, the Polars can expect to see another 25 years of service.

420' WAGB-LCMP and 240' WLBB-GLIB - The HEALY serves as a prototype platform for maintenance and operations while utilizing the optimal crew size necessary to operate underway for six to eight months. The ELC recently completed a crewing study and a Life Cycle Maintenance Plan (LCMP) to review the effectiveness of HEALY's minimal manning. The findings of the crewing study were key in determining the GLIB manning levels.

Presently the Great Lakes Icebreaker (GLIB) is in the production and deployment stages of acquisition. The new MACKINAW will be the CG's first Azipod-propelled vessel. The 015 Branch is currently managing the provisioning process for the GLIB by coordinating the efforts of the Project Office (PRO) with the ELC's Equipment Management Division. G-AGL, along with the PRO, ELC, and MLC are creating a support structure similar to HEALY for the GLIB and its minimally manned crew after delivery. Also see other GLIB-related articles in this edition.

Branch Chief	CDR M. Lebeau	(410) 762-6600
Logistics Manager	Mr. H. Stohr	6610
399' WAGBs	LTJG B. Carroll	6605
420' WAGB	ENS R. Mills	6603
WTGBs, WYTLs	CWO T. Wacker	6608
GLIB	CWO G. Sahlin	6497

ELC-016, Electronics/ Ordnance Branch

by LT Patrick Smith

The Electronics and Ordnance Branch, ELC-016, is committed to providing a wide variety of cross-platform support to the individual boat and cutter class managers in the Division. Specifically, we: develop, maintain and monitor life cycle engineering and logistics support for weapon systems, perform Configuration Data Management (CDM) for vessel and shore electronic equipment and weapon systems, coordinate development of electronic equipment Engineering Changes (EC), and develop ECs for the Rescue 21 Project.

Configuration Data Managers - The CDMs are divided into two teams; one has oversight of Navy-Type Navy-Owned equipment (IFF, weapons, ESM, etc.) while the other has oversight of all other electronic equipment. Though the processes by which they operate and the products they deliver (MICA & COSAL manuals) are different, their responsibilities are the same: Maintaining your unit's equipment configuration data files to ensure they match your installed equipment. Accurate files are the cornerstone to the development of APLs, AELs, spare parts and other critical listings contained in your MICA/COSAL. Fleet technicians have a direct impact on the accuracy of your MICA/COSAL. If the CDMs are unaware of changes made to your equipment, they can't maintain your files accurately. It's imperative you report completion of all Field Changes, ECs and ORDALTS using the OPNAV 4790 CK form available on the ELC website.

Electronic Engineering Change Coordinator - The Electronic Engineering Change Coordinator (EECC) manages the development of all electronic equipment ECs, regardless of platform applicability. Since consolidating this role in the Division, it has resulted in a streamlined EC management process and a significant decrease in EC cycle time.

Rescue 21 - The project is aimed at modernizing the communications systems used for monitoring the VHF distress frequency, coordinating SAR, and communicating with all other vessels. When complete, it will involve upgrades on 23 cutter and boat classes totaling 700 individual platforms. Aside from developing ECs for this project, the Rescue 21 Project Officer acts as the liaison between the Acquisition Manager (G-AND) and the contractor for issues relating to engineering design, logistics support and installation planning from prototype through full-scale installation.

The Mk 110 Mod 0 Gun Mount during recent testing at Dahlgren, VA.

Weapons Team - The weapons team manages all aspects of life cycle support for cutters' installed weapon systems. This function includes budgeting and funds distribution, system overhauls and upgrades, and maintenance planning and policy. Partnering with our USN counterparts, ELC is an active participant in numerous engineering and logistics working groups and IPTs that address the various support issues for the aging weapon systems. These issues include supply support, parts obsolescence, reliability improvements and maintainability. Though we predominantly handle legacy assets, we have had the unique opportunity to be involved with the evaluation of the Coast Guard's new 57MM Mk 110 Mod 0 Gun Mount destined for installation on the WMSL. The 57MM intermediate caliber gun has a magazine capacity of 120 rounds and a firing rate of 220 rounds per minute. The gun and its ammo, the Pre-fragmented, Programmable, Proximity fused (3P) round, are currently undergoing rigid testing and evaluation aimed at certifying it to USN Standards.

Branch Chief	LT P. Smith	(410) 762- 6632
WEPS TM	CWO D. Jones	6626
WEPS TM	CWO T. Bragg	6638
CDM	Mr. R. Ramkumar	6159
CDM	Mr. R. English	6158
R21 PO	CWO J. Pfautz	6133
EECC	ETC T. Bateman	6607
CDM	ET2 J. Farr	6620
CDM	ET3 B. Tripp	6627

ELC-017, Maintenance Branch

by ENS Adam Cooley, Joseph Prokop and William Mercier

47' MLB CGMER in Astoria, Oregon (October, 2003).

The Maintenance Branch is responsible for Preventive Maintenance System (PMS) policies and procedures, Damage Control Policy, and publication and distribution of PMS materials. The Branch consists of the following assigned personnel:

Branch Chief	LCDR D. Kong	(410) 762-6112
PMS Coordinator	LTJG A. Cooley	6631
PMS Coordinator	CWO G. Duncan	6628
Damage Control Policy Advisor	CWO C. Evans	6622

In addition, ELC-017 will create a new updated master Machinery Space Firefighting Doctrine (MSFD) and Cutter Standard Repair Locker Inventory (RLI). A May 2004 Damage Control Conference provided feedback from the fleet into the MSFD and the RLI. ELC-017 also provides a DC Policy Advisor to oversee the conversion on all vessels from OBAs to SCBAs. This large scale project will require several more years to complete.

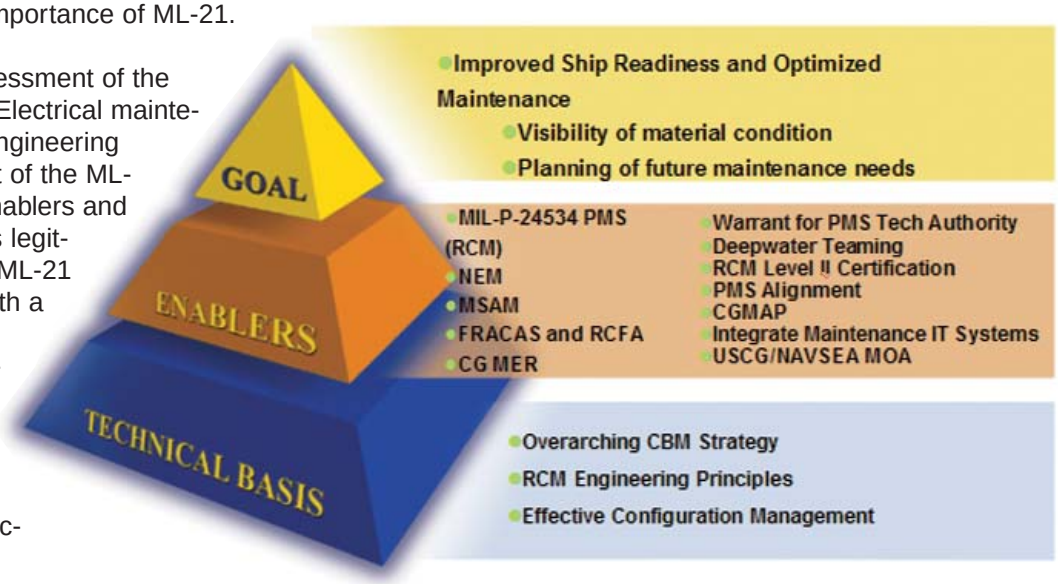
Maintenance Logistics 21 - ML-21 is a Naval Engineering initiative to establish a sustainable, end-to-end maintenance program supporting continuous improvement. Additionally, the Naval Engineering Business Plan provides guidance over ML-21. A general discussion of ML-21 and its major two tenants, Conditioned Based Maintenance and Reliability Centered Maintenance, will better show the importance of ML-21.

ML-21 evolved from a strategic assessment of the Coast Guard Hull, Mechanical and Electrical maintenance program conducted by the Engineering Logistics Center in 2002. The heart of the ML-21 vision is captured in its goals, enablers and technical basis. The technical basis legitimizes enablers needed to achieve ML-21 goals. The technical basis starts with a Condition Based Maintenance Strategy. This strategy states maintenance will only be performed when there is "*Objective Evidence of Need*!" Principles of Reliability Centered Maintenance provide the decision logic to determine the objective evidence of need. ML-21 provides improved readiness to the fleet with optimized maintenance. This offers greater visibility of material condition and ability to plan future maintenance.

Reliability Centered Maintenance (RCM) - The application of Reliability Centered Maintenance from Military Specification MIL-P-24534A uses technologies where it makes sense to do so, and other decision tools that support the management of a maintenance program. RCM identifies *applicable* and *effective* maintenance tasks that maintain the reliability of systems and equipment at minimum cost. RCM provides the decision logic for determining objective evidence needed to select maintenance, whether corrective, preventive or alterative. RCM supports preserving system functionality while optimizing maintenance requirements and resources.

ELC-017 used two forms of RCM, "Classic" and "Backfit." "Classic" RCM is a process for conducting system-level engineering review of new Coast Guard maintenance requirements. Coast Guard Maintenance Effectiveness Reviews (CGMERs) utilize "Backfit" RCM, a three step validation of existing preventive maintenance requirements using operational experience to establish:

- Does the task address actual failures?
- Does the task restore reliability?
- Is the task worth doing?



Developers, reviewers and approvers of maintenance tasks require certification (every three years) in the Classic RCM process as will be required in the new Chapter 076 of the NEM.

The Coast Guard's RCM approach schedules CGMERs considering casualty reports. ELC also considers new additions and Integrated Logistics Review platforms when scheduling CGMERs. Successful implementation of RCM analysis requires participation from three groups; operators/maintainers, design engineers and experienced RCM analysts. Design engineers understand basis of design, equipment operation and expected failure probability. The operators and maintainers experience equipment operation, and how, when and why systems fail. Experience shows this combination of skills with experienced RCM analysts will lead to meaningful results. The partnering of these three critical groups forms the model that makes the RCM process successful -- doing the Right Maintenance on the Right Equipment at the Right Time.

ELC-017 scheduled seven CGMERs in the Fiscal Year 2004 (FY04) maintenance program. In order to better communicate and plan for these CGMERs, ELC-017 posts the annual CGMER schedule on the RCM Tiger Team website at http://cgweb.elcbalt.uscg.mil/RCMTigerTeam/index.htm. CGMERs have been in effect for over 22 months in the Naval Engineering community and a *System Times* article detailed the Classic and CGMER processes in the Winter 2003 edition. Over the last 22 months, ELC-017 has reviewed over 600 MPCs.

Because units track and schedule PMS using CMplus, PMS data must be as current as possible. To achieve this, ELC Maintenance Branch successfully prototyped a "PMS" Refresh Web page in March 2004. This website provides unit Hull, Mechanical and Electrical (HM&E) and Damage Control PMS refresh files. Cutters will no longer have to manually enter updates for PMS in CMplus. In addition, ELC now promulgates new manuals and amendments via the Maintenance Branch web page http://cgweb.elcbalt.uscg.mil/asp/017branch.asp. Units now have the capability to view, download, and print PMS Manuals and PMS refresh instructions from this website. The goal is to have PMS Manuals with CMplus Refresh capability to be available electronically by August 2004. New manuals and future amendments will only be available in electronic media at the ELC-017 web page as part of a paperless PMS manual initiative.

Conditioned Based Maintenance (CBM) - Often vendors approach managers and engineers offering Condition Based Maintenance or "CBM technology" to reduce maintenance on ships. But can it and is it worth the investment? The Coast Guard's standard maintenance analysis process, RCM, provides a framework and a set of rules to help managers answer these questions. Industry often misuses the term CBM as there are many different definitions. The Naval Engineering community follows the Navy's definition as described in OPNAVINST 4700.7J, CNO's policy for maintenance of ships. Here, CBM is maintenance based on the objective evidence of need. Sensors and computer-based monitoring systems are only enablers of CBM. For this reason CBM technology only provides the information necessary to develop objective evidence of need.

RCM provides a set of rules defining the objective evidence of need. Those rules of evidence can apply equally to the selection of appropriate CBM-enabling technologies.

In the last several months, the Naval Engineering community recognized the need to manage the Coast Guard condition based maintenance program. This program is a predictive and diagnostic program utilizing the latest CBM technologies. A December 2003 CGMER selected systems and equipment needing assessments. The program includes assessment of electrical, auxiliary and damage control systems for cutters greater than 175' in length. The initial program has annual assessments of approximately 20 cutters in the base year covering six cutter classes. Up to 70 cutters may be covered in latter years.

The Coast Guard Machinery Assessment Program (CGMAP) provides accurate and timely condition assessments, fault diagnostics and repair recommendations for machinery and electrical equipment based on condition assessment and monitoring technologies. These technologies include vibration analysis, motor circuit analysis, thermal imaging, flow measurement, laser alignment, borescopic and ultra-sonic inspections, performance data, ship's crew data, maintenance logs and visual inspections of machines. Periodic and situational non-intrusive testing and vibration analysis of machinery by the program's contractor and ship's forces help achieve the CGMAP objective. This testing will be a joint effort between an ELC contractor and Naval Engineering Support Units (NESUs). The NESU MATs will conduct some of the assessments independent of contractor efforts. As condition monitoring technologies are fielded to the NESUs, training will be provided, and a "prototype" approach will be followed to provide a structured implementation, evaluation and improvement process.

A Failure Reporting and Corrective Action System (FRACAS) supports HM&E systems maintenance. This closed loop system will identify systems suitable for CBM transition efforts to include MERs and the application of predictive maintenance technologies. The system collects and analyzes failure data and uses that data to make informed maintenance decisions for improving reliability and reducing life cycle maintenance costs. A proven and structured Root Cause Failure Analysis program is also being incorporated to evaluate and address root causes of chronic failures to eliminate them.

ELC-018, Customer Service Branch

by CPO Christopher Moore

The goal of the Customer Service Branch is to deliver quality products and services to our customer, on time, every time.

Customer Service is the single point of entry into the ELC to assist the Fleet with requisition issues. We control Coast Guard unique items, we replace items if the part does not fulfill its end use, and we work to ensure that shipments requiring next-day delivery are on time. Customer Service Representatives are standing-by to process priority requisitions and provide responses to your questions and/or concerns. You can reach Customer Service at (410) 762-6800 or 1 800-336-7430. Our website is available at http://cgweb.elcbalt.uscg.mil.

The ELC is determined to provide the fleet with the kind of quality customer service you would expect from a large corporation: Quick, Accurate and Reliable. However, unlike corporations, we must often depend on a collaborative effort by our customers to keep the system functional. For example, it is a joint responsibility to ensure that our Coast Guard unique Mandatory Turn-In (MTI) items are repaired and returned to the shelf, "Ready For Issue." To ensure this occurs, carcasses must be returned as rapidly as possible, and we do depend on our customers to submit Report Of Discrepancies or Quality Deficiency Reports whenever material is not received as expected.

When you call the ELC Customer Service Branch, our representatives are required to record all incoming calls in our "Customer Service Database." The representative will ask for your name, telephone number and/or OPFAC. After the call, the representative will send you a survey, allowing you to rate your experience with the ELC. Although the survey is optional, we welcome both positive and negative comments as a means by which we continuously improve our processes in response to the needs of our customers.

Processing Free Issue Requisition - If you have ever submitted a requisition for a free issue item (no cost) i.e., a CG form, then called for an order status, you may have been surprised to hear that the ELC has no record of that document number. We routinely receive calls of this type, and commonly the explanation is that ARMS or DAAS has rejected the document because it has been submitted with errors. A common error that will cause the system to reject a requisition is if the fund code does not agree with the signal code. A few tips to ensure your requisition processes through (FLS/CMplus) effectively:

- Ensure requisitions with temporary stock number (alpha characters within stock number) are submitted with document ID of A0D or A04.
- For forms, use signal code B, fund code SA, and a supplemental address of Z70210 (HDQTRS).
- Ensure item cost is noted on the requisition.

If you believe that a transmittal problem exists, call the OSC Help Line at (304) 264-2500 or call DAAS at (937) 656-3247. Priority Requisitions (CASREPS) - **The ELC Customer Service accepts Priority Requisitions via Facsimile (fax), CGMS and Telephone (operational emergencies only). Faxed requisitions should be limited to priority one, two and three/999 CASREPS.** Please do not use e-mail (Microsoft Outlook) to send CASREP or Priority Requisitions. This is not a reliable method to transmit priority requisitions and could delay the shipping process.

ROD/QDR Submittals - You can electronically submit an ROD or QDR on our ELC website at: http://cgweb.elcbalt.uscg.mil/. Select "Products and Services" from the list, choose ROD/QDR Status Report in the third column, then select one of the following: submit ROD or submit QDR. Submit RODs and QDRs this way only for items stocked at ELC. Once the ROD/QDR is received and entered into ELC's database, a status and a brief description of the resolution will be entered on the website. However, the complete disposition will still be sent via USPS mail.

Branch Chief	Ms. D. Harris	(410) 762-6204
Asst Branch Chief	Ms. L. Straker	6771
Customer Services Rep	CPO A. Watkins	6074
Customer Services Rep	Mr. J. Whitehead	6773
Customer Services Rep	Ms. F. Devonish	6872
Customer Services Rep	Mr. M. Williams	6230
Customer Services Rep	Mr. C. Karasinski	6875
Customer Services Rep	PO1 E. Segarra	6871
Customer Services Rep	PO1 D. Yorro	6887
Customer Services Rep	PO1 M. Borowski	6874
Customer Services Rep	PO2 S. Watts	6487
Customer Services Rep	PO2 N. Young	6883

ELC-01M, Mobile Support Unit

by LCDR Jon Gage

The Mobile Support Unit (MSU) provides logistics support and deployable maintenance support workspaces for deployed patrol boat during special operations. The MSU is staffed by Coast Guard Reservists, which augment Active Duty maintenance personnel provided by the operational sponsor or the servicing Maintenance and Logistics Command.

The MSU is capable of providing two independent deployable teams and equipment to support deployed 110' WPBs (Patrol Boats). Each team includes trailers containing spare parts, workshops, administrative work areas, portable generators and work vehicles.

In October of 2002, MSU Deployment Team One was activated for OCONUS operations in support of Operation Iraqi Freedom (PATFORSWA). It was deployed to the Kingdom of Bahrain in February 2003.

In January 2003, the ELC organized and equipped a second MSU Deployment Team (PATFORMED). This Team was also deployed in February 2003. MSU #2 returned in June 2003. In March 2004, MSU #2 was again deployed to support Haitian operations.

The MSU Teams provide the vital infrastructure from which maintenance personnel can function to support the deployed cutters. The MSU is designed to support the "A, B or C" Class 110' WPBs with basic parts and consumables for up to 60 days without re-supply.

Portable Generator Units.

Exterior view of the MK and DC Shop.

ELC-02, Equipment Management Division

by Clayton W. Davis

Clayton W. Davis

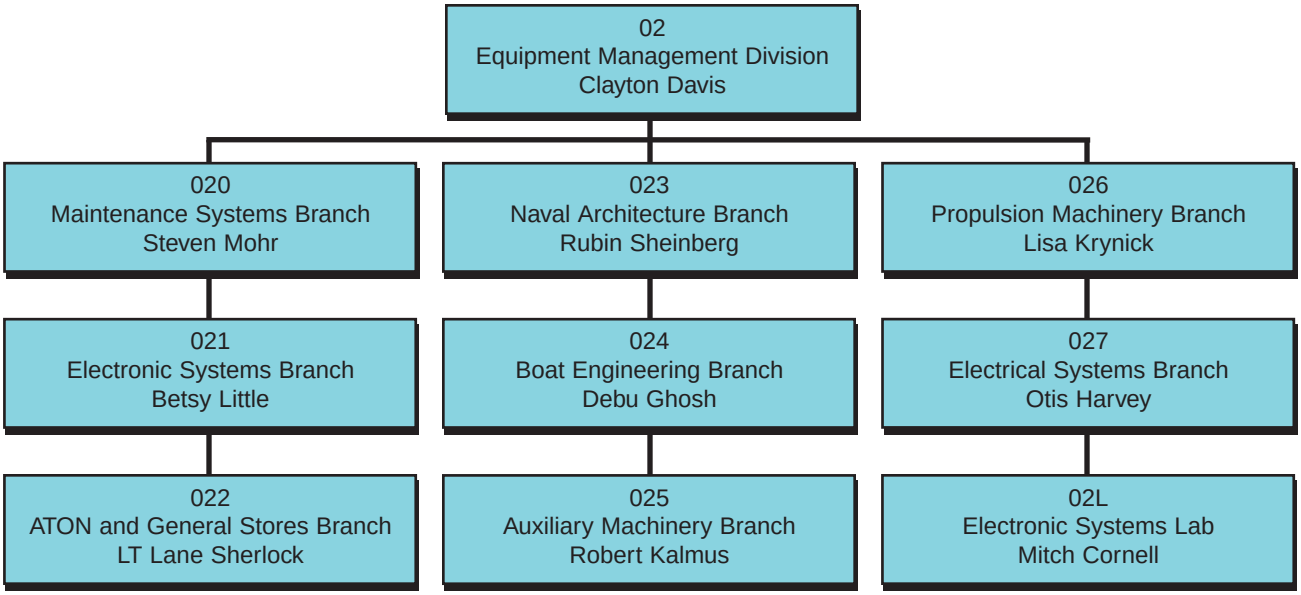
A primary goal when the ELC was created in 1996 was the establishment of integrated equipment teams, and that vision is evident in the organizational chart of Branches that form ELC-02, Equipment Management Division (see below).

Articles on following pages describe the types of equipment and systems that each Branch manages. The "integrated" part refers to the specialists that are teamed within most Branches; those members are: Provisioners, Inventory Managers (IMs), Equipment Specialists (also called COTRs) and Engineers. These people work together to manage similar kinds of hardware across all classes of cutters, boats and shore stations. For example, all motor controllers, unless managed by OGA (Other Government Agencies), are managed in ELC-027.

Provisioners create the Allowance Parts Lists (APLs) that form the platform-specific MICA documents, determining which parts will become On Board Repair Parts (OBRP), and which parts need to be stocked here at the ELC if the part is not available from OGA. Once an item is stocked on our shelves, the IMs are responsible for keeping the shelves from going bare. The COTRs prepare the technical specifications that form part of the replenishment purchase orders. The engineers assist the COTRs as needed, prepare drawings and specifications for Engineering Changes, and review new cutter/boat acquisition drawings to ensure that equipment and systems will perform as intended over the life of the assets.

Although the procurement folks are part of the 04 Division and not 02, many of them are co-located with my Branches here at the Ordnance Road building, so that in effect, the KOs (Contracting Officer) and contract specialists work together with, and are part of, the equipment teams.

The "equipment" managed by ELC-023 and ELC-024 may not be obvious. The naval architects manage hull structures and hull forms, internal decks, flight decks, bulkheads, superstructures, masts, towing bitts and so forth. They also are responsible for the structural design of cranes, davits and booms, as well as for the cutter/boat intact and damage stability characteristics.



ELC-020, Maintenance Systems Branch What's Really Going On

by Steven Mohr

The Maintenance Systems Branch believes that the largest gains to improve system operations lie in three areas:

- accurate system and equipment identification;
- equipment supply support; and
- preventive maintenance.

Providing the equipment operators with the ability to correctly identify equipment, having the correct spare part available and identifying the proper preventive maintenance to be performed, are the cornerstones of system operations and reliability. Improving these areas is the goal of the Maintenance Systems Branch.

Why use equipment nomenclatures? - Equipment nomenclatures assist in the unique identification of system and equipment configurations. The Joint-Electronic Type Designation System (JETDS) serves this function well, and remains the naming convention of choice for systems over which the Government has design control. However, JETDS restricts assignment of nomenclatures for Commercial-Off-The-Shelf (COTS) systems and equipment in cases where the Government does not have design control. The increased use of COTS equipment has revealed the need for a naming convention for systems and equipment that JETDS does not accommodate. Currently, COTS equipment contained in an integrated system is not assigned a JETDS nomenclature and is identified by a CAGE code, a unique identifier (such as the part number or model number), followed by the item name.

Within the Branch, the nomenclature database manager is responsible for validation and entry of nomenclatures into the Temporary Electronics Management Project Tool (TEMPT) Database. This database contains a variety of naming conventions. While there will always be JETDS nomenclatures in the database for those items where the Government must maintain design control, the increased number of systems containing COTS equipment over the past decade requires standardization of the nomenclature assignment procedure. The procedures are outlined in depth in the Joint-Electronic Type Designation System specification MIL-STD-196 (series).

In August 2001, the ELC stood up the Readiness Based Sparing (RBS) team as a subset of the Maintenance Systems Branch. The purpose of the RBS team is to present areas of improvement in customer service to the fleet, cost effectiveness, and supply support policies using technology and current business practices. The RBS team is responsible for cost analysis, spares optimization, level of repair analysis, logistic support analysis, spare part stock point analysis and Life-Cycle Cost modeling. The team performs analytical studies of major Coast Guard systems under development, as well as systems presently in use throughout the fleet. These studies are performed with the use of a contracted or licensed spares optimization or life-cycle cost analysis software tool. These tools allow RBS the flexibility to forecast the most economic spare part solutions versus operational availabilities (Ao), provide comparative front-end analysis and forecast repair cost for major systems.

In addition, the RBS team provides data relating to the needs of our customer, by reviewing available logistic guidance documents and meeting minutes. During the course of conducting the studies, the team interviews subject matter experts, i.e., transportation specialist, contracting specialist, equipment specialist, item managers, contractors and operational personnel to evaluate the impact of supply support policies and practices on the project. In the end, we hope the study will provide accurate and timely information for use by managers.

Our role in the Coast Guard's Planned Maintenance System (CGPMS) development - Maintenance Systems Branch personnel perform the duties of the Contracting Officer's Technical Representative (COTR). The COTR acts as the liaison between the Coast Guard and the contractor (currently J.M. Waller Associates). The contractor is responsible for developing the Coast Guard's electronics Maintenance Procedure Cards (MPCs).

The development of CGPMS begins with a request from one of the three Systems Management and Engineering Facilities (SMEFs). On rare occasions, the MLCs, Headquarters and ELC Branches will also initiate a request. The request is forwarded to the contractor to be reviewed and analyzed in accordance with the Reliability Centered Maintenance (RCM) principles contained in MIL-P-24534A. The analysis varies from two weeks to six months, depending upon the complexity of the system being evaluated. Upon completion of the RCM analysis, the contractor creates and delivers the MPCs to the COTR, who validates the MPC and subsequently send the MPC to the appropriate SMEF for acceptance.

ELC-021, Electronic Systems Branch

by CWO4 Terrence Manning

The team concept is deeply embedded within the Electronic Systems Branch and defines both the organization and the missions of the three teams within the Branch. Our Provisioning, Technical Support and Inventory Management Teams are thoroughly integrated to work with our three partnering System Management and Engineering Facilities and the Office of C2 and Navigation Systems at Guard Headquarters (CG-64). Open communications and cooperation with TISCOM, C2CEN, LSU and CG-64 have been keys to building cradle-to-grave support for new equipment and robust continuing support for legacy assets. In addition to working with these organizations, the Electronic Systems Branch also works closely with the Office of Computer Systems (CG-63) to maintain Standard Workstation III (SWIII) replacement stock, and with G-OCC/G-OPN to support the Panasonic Rugged Positioning Computer for ATONIS. Three recent examples illustrate the successful collaborative efforts by the Electronic Systems Branch and its partners.

LORAN has been around for a long time, its future often in doubt; however, in Fiscal Year 2001 (FY01) with continued LORAN service firmly in place, the ELC recognized that sustainable support had to be addressed and realized. Low levels of too-often repaired parts and increased demand due to high failure rates created shortages and backorders. By June 2002, ELC's Point of Entry (POE) showed that only 55% of incoming requisitions for Loran Station equipment were being filled on time. Working with LSU and the ELC Electronic Systems Lab, ELC-021 analyzed demand, spending, pipeline spares and field unit complaints. A complete overhaul of LORAN supported items resulted in $2.9M in purchases of critical stock, disposal of obsolete/excess inventory totaling $1.166M, reduction in Quality Deficiency Reports (QDRs) from LORAN Stations by 57% and increased POE to an average of 96% by April 2004.

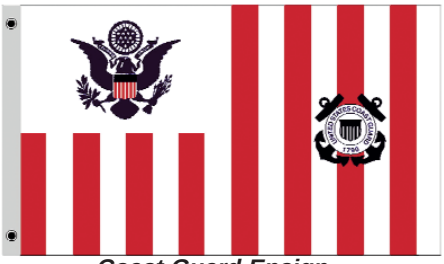
In December 2001, ELC-021 was tasked with support of the highly visible ATONIS Rugged Positioning Computer (RPC) program. To meet the Commandant-mandated 72-hour turn around replacement time and to alleviate software download problems at ATON units with the Fieldworks and Itronix RPCs, programming the laptops was shifted to the ELC Electronic Systems Lab. Due to high failure rates and long programming times, we pushed for the new Panasonic Toughbook to replace existing laptops. Providing cost benefit analysis/viable support options, ELC-021 received approval from G-OPN and G-OCC to purchase the Panasonic Toughbooks. Funds transferred to the ELC allowed for the purchase of 384 Panasonic Toughbooks. ELC-021 continues to work with G-OPN and G-OCC to prepare for IATONIS while maintaining ATONIS support. We are also fully engaged with CG-63 as they assess the possibility of making the Panasonic Toughbook the standard rugged portable for the Coast Guard.

One of our greatest challenges has been the AN/SPS-73 RADAR. Picking up support in January 2001, including honoring warranty returns from field units, ELC-021 immediately ran into difficulties due to OEM radar design deficiencies and revisions to numerous Circuit Card Assemblies (CCAs). These problems slowed efforts to finalize technical packages for short-term repair and to get Blanket Purchase Agreements in place for long-term repair. As OEM problems were resolved and the equipment population grew, the FY02 demand for several CCAs increased 170% to 383%. Finding that five of the Raytheon boards in the radar were coming back from the repair facility as "no fault found" close to 25% of the time, ELC-021 collaborated with the Electronic Systems Lab to have these five boards screened on turn in from the field and on return from repair. To meet the high demand for the radar, ELC-021 has spent $5.3M since FY01 to support the radar. Additionally, we are working to convert BPAs into repair contracts due to long repair lead times. Partnering with C2CEN, ELC-021 has initiated a program for overhaul of the radar pedestal with the Coast Guard YARD. As the AN/SPS-73 Radar program continues to evolve and change, we will continue to keep the field updated with Supply Advisories. These can be found on our Intranet website, http://cgweb/elcbalt/uscg/mil/, under ELC Products and Services.

ELC-022, ATON Hardware and General Stores Branch

by LT Lane Sherlock

The ATON Hardware and General Stores Branch performs inventory management functions, supply cycle support and technical/quality assurance for all ATON Hardware and General Stores Material. ATON Hardware includes small ATON (Aids to Navigation) devices, Data Marker Buoys and headquarters-controlled short-range ATON equipment. General stores is best described as inventory that consist primarily of Coast Guard material which falls outside the Hull, Mechanical, Electrical, Ordnance and Electronic equipment realm (i.e., forms, flags, silverware, decals, medals and awards, electronics manuals and field change bulletins, recruiting brochures).



Coast Guard Ensign

As part of the ATON community, we:

- ❑ Coordinate support requirements with ATON Program Managers;
- ❑ Prepare item support plans in the form of annual procurement plans;
- ❑ Manage all molds and dies for ATON hardware;
- ❑ Ensure usable condition of molds and dies;
- ❑ Manage all ATON related procurement specifications and drawings; and
- ❑ Perform all duties as Contracting Officer's Technical Representative (COTR) for current ATON related buys.

We also attend ATON conferences and workshops to remain current with ATON missions. On occasion, we reduce our inventory by having sales posted on our website. Our website is found on the Coast Guard Intranet at http://cgweb.elcbalt.uscg.mil/aton/default.htm. We also provide support for general stores items unique to the Coast Guard. Our interaction with the Institute of Heraldry is crucial in maintaining the correct coloring and design of CG medals and ribbons.

Do you know what the ATON Logistics Action Team (ALAT) is?

In times of a natural disaster (hurricane) or unusually high workload, we provide a team of logistics experts that will arrive on scene and expedite the ordering and delivery processes required for ATON material. We prepare the requisitions, ensure the requisitions are processed, expedite any issues and ensure delivery to the various units. The objective of this team is to allow your usual staff to concentrate on getting the waterways open and let us concentrate on getting you the materials to do your mission. The ALAT travels on your TONO and uses your funding codes. In the past, we activated the ALAT twice: once for the Eighth District and once for the Fifth District. To initiate the ALAT, a request must be made to the ATON Hardware and General Stores Branch, ELC-022, through the Branch Chief, LT Lane Sherlock (410.762.6207) or via e-mail. You may also contact our Customer Service Branch at (410.762.6800).

SLDMBs are replacing DMBs. The SLDMB buoy is designed for fully automatic deployment after impact with the water. The SLDMBs provide near real-time continuous data that is available to search planners. It is stocked at the ELC: nsn 5820-20-001-0558. Further information on this new CG item can be found on the G-OPR-1 website http://cgweb.comdt.uscg.mil/G-OPR/sldmb.htm.

ELC-023, Naval Architecture Branch

by Richard Middleton

225' WLB Launching.

The Naval Architecture Branch is the technical expert for the U.S. Coast Guard in the field of naval architecture and is responsible for providing expertise and oversight to acquire, maintain and support Coast Guard vessels of 120 feet or greater in length. In this capacity, ELC-023 is responsible for "basic ship design." This function involves selection of ship dimensions, hull shape, powering (amount and type), arrangement of hull and machinery, and major structure to ensure attainment of desired speed, endurance, payload and operational performance, and the determination of major ship characteristics affecting cost and performance. In addition, ELC-023 is responsible for ship stability, weight control and monitoring, seakeeping and maneuvering, resistance and powering, ship structures, welding and fabrication, general arrangements, habitability, human factors, icebreaking technology, weight handling and boat handling arrangements, anchor handling and towing arrangements, weapons systems arrangements, ship/aircraft interface, damage control documentation, shipboard stability software as well as life cycle and total ownership cost estimating. In all of these areas, ELC-023 is responsible for developing and maintaining technical criteria, policy and standards to guarantee that the CG will have vessels that meet its stringent needs.

ELC-023 has traditionally played a significant role in the early stages of new acquisition projects by performing feasibility and trade-off studies to assist in developing feasible and affordable requirements, performing cost studies to determine Total Ownership Cost and performing cost-benefit analyses.

The Branch is also involved in the sustainment of the legacy fleet of cutters. Some of the more familiar Branch products include: Flooding Casualty Control Software (FCCS), Stability and Loading Data Booklets, Damage Control Books, Compartment Check-Off Lists, Damage Control Diagrams and Stability Test Reports. In addition, the Branch monitors the stability and weight growth of cutters. Every ECR is processed through the Branch to determine its impact on stability and weight, and if the change must be compensated for by addition, removal or shifting of weight. Accordingly, conditions for safe operation of the cutter are maintained.

Examples of work in the area of hydrodynamics the Branch is involved with include:

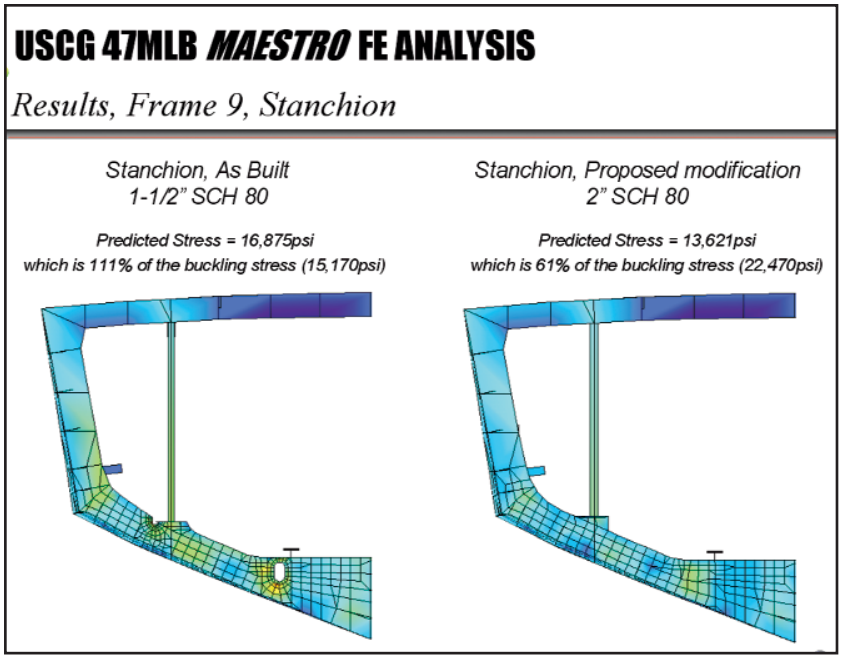
- The development of Heavy Weather Operational Guidance, a prediction and decision aide, which is being developed to provide ship operators with guidance on how to safely maneuver ships in extreme sea conditions.
- Identification of fuel saving devices for Medium and High Endurance Cutters. This work initially involved the analysis of over a dozen modifications that could be made to the existing cutters to reduce fuel consumption by up to 10 percent annually. After analysis of all alternatives, the most promising devices were tested and Engineering Changes were developed.

The Branch also maintains technical expertise in icebreaking technology. Because the U.S. Coast Guard is the only Government agency that operates icebreakers, the Branch has developed expertise in this field that is recognized worldwide. Recent work in this area has included the Ice Trials for CGC HEALY and a very successful partnership with G-AGL, G-OCU and Marinette Marine Corporation in the development of the replacement Great Lakes Icebreaker (GLIB) hull form and arrangement of the azimuthing propulsors. In addition, the Branch has participated in the harmonization of Polar Rules as the U.S. Coast Guard's representative to the International Maritime Organization (IMO).

The Branch is also involved in cooperative efforts with international navies to bring new technology and efficiency into the U.S. Coast Guard. The Branch participates in a number of NATO Teams including: Small Ship Design, Ship Costing, Ship Maneuvering and the development of a Naval Safety Code.

ELC-024, Boat Engineering Branch

by Debu Ghosh



The Boat Engineering Branch (ELC-024) is the ultimate authority and technical expert for the Coast Guard on engineering (except electrical) and logistics issues related to standard boats, motor life boats, aids to navigation vessels, rigid hull inflatable boats and small cutters including the 123 WPBs and their installed equipment. The Branch provides life cycle engineering and logistics support for these boats and small cutters. The Central Engine Overhaul (CEO) team is also included in ELC-024. The team provides technical expertise, documentation, warranty support, and cost/pricing for most of the main propulsion plants in boats and small cutters less then 123 WPBs. The Branch is also the technical authority for coatings, related material preservation systems, their application, preparation and removal processes on all boats and cutters. In addition, the Branch provides expertise in vessel environmental compliance, equipment and regulatory requirements with ongoing efforts to research marine pollution control devices to meet upcoming Uniform National Discharge Standards (UNDS) and MARPOL requirements.

With such a wide spectrum of responsibilities, the Boat Engineering Branch employs a full range of technical specialties including naval architects/marine engineers and other engineering disciplines such as mechanical, materials and environmental. Branch personnel are internationally recognized experts in several areas of naval architecture and marine engineering; serve on national and international industry standards and rules committees and written papers, taught courses in their areas of specialization, and won technical society awards. Typical tasks in the Branch are stability analyses for Engineering Changes and management of the fleet's stability test programs, specifications for repairs and/or maintenance of ship's structures and equipment, acquisition project support for new boats, development of mission needs analyses, feasibility studies and preliminary, contract, and detail designs for new construction projects and for existing fleet modification projects. In the last 15 years, this Branch had the lead in the design of the 26 MSB Mark V, the 47 MLB, 49 BUSL and the 120 Aids to Navigation Barges. ELC-024 members have participated in specification development and on the Technical Evaluation Teams (TET) for the procurement of the 87 WPB, RB-M, RB-S, RB-HS, and are actively participating in the current RB-M project.

The Branch uses a wide range of software to analyze hydrostatics, hydrodynamics and structure, as well as CAD and hull form modeling programs. New software has been recently purchased for Finite Element Analysis of whole ship structures and has been used to model the 110 WPB and the 47 MLB (see above). This software is being used for existing ships and boats to optimize repair, maintenance and modification, and will provide an evaluation tool for new designs.

The Branch also does survey and design projects to support current needs and future acquisitions. Recent efforts have included development of a stern flap for the 110 WPB that saves fuel and increases speed, and validation of software for evaluating high speed boat motions in waves. One present effort will to improve prediction of high-speed boat performance. Model tests will be conducted to produce both speed and power and sea keeping data to aid in developing prediction tools. These tests will also include the first ever model tests to improve safety in operation of Rigid Hull Inflatable Boats.

The mission of the Boat Engineering Branch is to provide "cradle to grave" engineering and logistics support to the Standard Boats and Small Cutters in concert with the strategic direction of the Naval Engineering Program.

ELC-025, Auxiliary Machinery Branch

by Robert Kalmus

CGC TAHOMA "F" condition rudders.

210' WMEC rudder under construction.

378' WHEC rudder jig

New rudders as installed on CGC TAHOMA.

With the stand-up of the ELC, the Coast Guard's Naval Engineering and Logistics capabilities are being used more widely to assist the fleet. The marriage of engineering and logistics has proven to be valuable tool in keeping an aging fleet operational and providing technical expertise for the acquisitions of tomorrow.

The Auxiliary Machinery Branch is divided into four teams, Provisioning, Technical, Item Management and Engineering.

It is the merging of these four teams that has permitted the ELC to prepare for and manage the repair and/or replacement of 210', 270' and 378' cutter rudder assemblies.

Several years ago, it became apparent that the 270s and 378s were going to require replacement rudders. As no rudders had ever been ordered or donated into the ELC stock system, support for the rudders had to begin as if it was a new item entering the system.

The provisioning team first develops the APL using existing data in the ELC technical manual and drawing files. Next, the COTRs develop a specification package for the manufacture of new rudder assemblies and repair of returned assemblies.

Before preparing the spec, a decision was made within the Branch teams consulting with the appropriate type desks that in lieu of stocking spare rudders/shafts and tiller arms, the three would be stocked as a matched set. In this way, all parts would be pre-fitted to match each other, cutting down on timely and costly drydock delays to fit the tiller arm to the shaft and the shaft to the rudder.

Once that decision was made, the COTRs began developing the specification while the Engineers reviewed the drawings for completeness. In performing a thorough review of the drawings, it was determined that they didn't contain sufficient data for the manufacturer of the assemblies. In many cases tolerances weren't given and it wasn't possible to discern machinery dimensions. The ELC Engineers made numerous changes to the drawings to provide the missing information and corrected them to reflect today's manufacturing procedures. Once the initial package was completed, the ELC Engineers, working with the CG Yard, reviewed the drawings again to ensure the Yard had sufficient information to order the material and manufacture the rudders. This review resulted in several more changes to reflect Yard processes. With the drawings correctly done, the COTRs were able to complete the specification and send it to the Item Managers who processed a project order to the Yard to manufacture the rudder assemblies. In all, the ELC has ordered three sets of rudder assemblies (two rudders per set) for the 270 and 378 cutters (four rudders for the 210s have also been ordered).

At this writing, one set of 378 rudder assemblies has been issued and installed on Coast Guard Cutter (CGC) HAMILTON. Installation went well with the exception of some interference caused by the tiller arm. The arm was modified during the availability and the information relayed to the ELC to correct the drawings. A set of 270 rudder assemblies has been issued and installed on the CGC TAHOMA without incident. While the other sets of rudder assemblies are under construction, ELC-025 is pursuing the repair of the rudder sets removed from the cutters.

The joining of the Engineering and Logistics functions of the Coast Guard into the ELC has made this type of effort possible by creating a strong and viable team ready to meet the challenges of today and tomorrow.

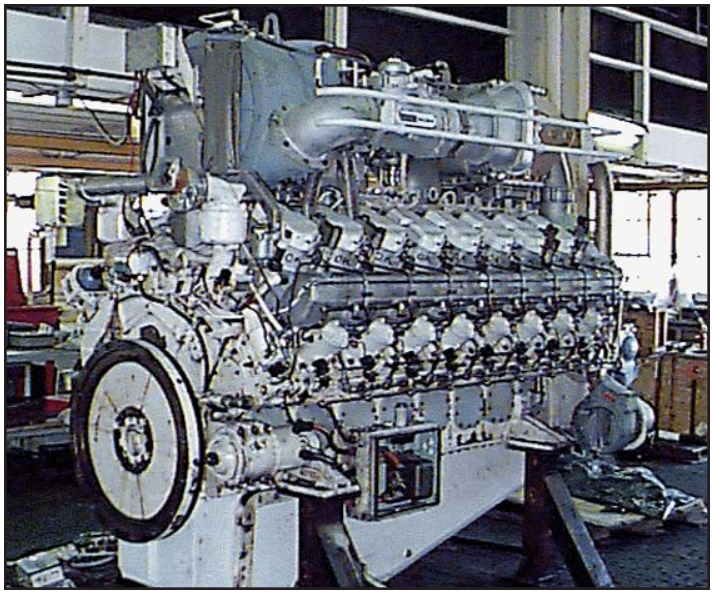
ELC-026, Propulsion Machinery Branch

by Mike Gaskins

As the name implies, the Propulsion Machinery Branch is responsible for integrated logistics support for a myriad of main propulsion equipment piece parts, systems and sub systems for virtually every class of vessel in the fleet. These include complete main and auxiliary diesel engines, reduction gears, shafts, propellers, gas generators, free turbines, turbochargers and associated internal/external piece parts. As such, we are probably one of the most visible Branches to the Coast Guard's integrated logistics support infrastructure given the complexity, criticality, operational impact and high costs associated with most of the repairable and consumable items we manage. In addition, we are in the forefront for research and development of many new propulsion systems related to Deepwater, Great Lake Icebreaker (GLIB) and other high profile initiatives. Our diverse civilian and military workforce, comprised of seasoned logistics managers/supervisors, naval engineers, equipment specialists, item managers and provisioners have an impressive list of completed and on-going success stories that are difficult to capture on one page. However, some of the Branches more recent and noteworthy accomplishments are outlined below.

Our naval engineering staff is heavily involved in Deepwater, the complex, multi-faceted long term initiative for future fleet systems support. They have already analyzed countless technical documents and provided critical and timely feedback to the prime contractor on contract deliverable lists, gas turbine ratings, operational availability calculations and RMA. The engineers have also played a key role in the development of Propulsion Systems Dynamic Analysis modeling software for GLIB, used to predict transient response to load changes during special operations such as heavy icebreaking.

Our provisioners just completed a Provisioning Guidance Conference with Marinette Marine Corporation for GLIB. This first time event resulted in quality Provisioning Technical Documentation (PTD) submittals for the Azipod, Main Diesel Engines and the Emergency Generator, validating the team concept approach and future business practices for new vessel construction PTD efforts.



110' WPB "A" and "B" Class PAXMAN Engine.

In the repairables arena, a Critical Underwater Appendage working group was established to locate, inspect and report on the condition of critical vessel appendages managed at the ELC. This on-going initiative has already identified damaged WHEC, WMEC and WAGB propulsion shafts and prompted immediate actions to repair, re-preserve and re-package these assets. The repairables team has also established and maintained an excellent rapport with the CG Yard, solidifying a partnership with an invaluable resource for repair/fabrication/overhaul support.

The Gas Turbine Team (GTT) has been proactive in overseeing their Gas Generator and Free Turbine overhaul contracts, resulting in 100% availability of spare assets for fleet issue. This significant milestone has never occurred since the gas turbine program was first established. They are also participating in preliminary discussions with our mechanical engineers and NAVSEA regarding the proposed propulsion power plant for the new National Security Cutter and expectations for LM2500 gas turbine performance and support.

Of course, the focal point of any logistics support organization that impacts direction and purpose for so many others are the inputs/outputs of Inventory Managers (IM). Our four IMs, with a combined experience level exceeding 114 years, effectively oversee $100 million plus in wholesale inventory, equating to approximately 41% of ELC's total wholesale inventory. They are routinely in the spotlight and have achieved and sustained a remarkable 91% requisition fill rate through their commitment, dedication and aggressive logistics management techniques.

ELC-026, WHEC 378 MPCMS Console Emulator

by David Heisey and
Ernest Gaskins

Main Propulsion Control and Monitoring System (MPCMS) console.

The USCGC MORGENTHAU was the first WHEC (High Endurance Cutter) to have a Woodward MicroNet digital fuel control system installed on their Pratt & Whitney FT4A Gas Turbines. This system was developed to replace the obsolete and unsupportable Hamilton Standard, hydro-mechanical fuel control the original equipment on the FT4As since installation in the 1960s. Like most new systems, provisions for operator training had to be included and executed early in the project. Initially, this training was conducted at Woodward Governor Company in Fort Collins, Colorado, and was considered satisfactory for the Woodward MicroNet fuel control system by itself. However, the training excluded the Main Propulsion Control and Monitoring System (MPCMS) console and how the two systems interface and operate together.

Fortunately, Training Center Yorktown (TCY) was still in possession of an MPCMS console that had previously been used for a training class suspended in the early 1990s. With this valuable resource, personnel at TCY pursued their vision to resurrect the MPCMS console training class to include the Woodward MicroNet fuel control system. The first step was to refurbish and upgrade the MPCMS console and have the new Woodward MicroNet fuel control system hardware components installed and wired. The logical organization to accomplish this task was the Coast Guard Yard because they had installed all fuel control upgrades following MORGENTHAU.

Through the joint efforts of TCY Electricians Mate School, MLCP(vr) (Maintenance and Logistics Command Pacific's Naval Engineering Division), COMDT. G-SRF, G-SEN, G-OCU and ELC's Gas Turbine Team/Auxiliary Contracting Branch, funding was obtained, a statement of work drafted, and a contract awarded to Woodward Governor Company to design and create emulating software. This software mimics operation of the Main Diesel Engine, Main Reduction Gear and Main Gas Turbine on board a 378 WHEC via operating dials and gauges on the control console. Delivery of the completed hardware and software to TCY occurred late summer of 2003, and the first training class convened in September 2003.

The emulation software and hardware responds to output from, and provides realistic inputs to, the training MPCMS console. For example, a diesel engine start signal will cause the diesel engine tachometer to respond just as it would if connected to a Main Diesel Engine (MDE), even going so far as simulating a "fail-to-start" if the appropriate permissives are not met. If the trainer console is aligned to engage an MDE clutch, the engine and shaft tachometers respond as they would aboard the cutter. The emulator also displays, via the console indicators, appropriate changes in all measured or monitored parameters for operator inputs. If the trainer MPCMS console is adjusted to increase speed and pitch on an operating "virtual" turbine, the tachometers, temperatures, pressures, feedback circuits and pitch signals all respond as they would in an actual installation. The instructors can introduce "bugs" simulating process errors (a failed MDE start air solenoid, for example) by using a custom "bug" register built into the emulator software. This feature affords the students the opportunity to troubleshoot individual circuits in the trainer console as if it were connected to the real world devices.

The newly refurbished MPCMS console, in addition to the propulsion emulator, enables the Yorktown instructors to train students in the theory of operation, calibration requirements and procedures, troubleshooting methods pertaining to the electrical and electronic components of the MPCMS and the operation, maintenance and troubleshooting of the Woodward MicroNet fuel control system, specifically the operating algorithm. The MPCMS console emulator gives students a "realistic feel" of what to expect aboard the cutter as they observe the virtual gauges during start-up, shutdown and troubleshooting without the associated noise from engine room machinery and, best of all, without expending a drop of fuel.

ELC-027, Electrical Systems Branch

by Otis Harvey and Keith Lisak

270' WMEC Tank Level Indicator Automation … 225' WLB Thruster System Performance Improvements … 225' WLB MPCMS Data Logger Modification … all efforts of the Electrical Systems Branch (ELC-027) to support you in accomplishing your missions. Here in ELC-027, we have responsibility for managing engineering and logistics support for electrical systems and equipment on all classes of cutters and boats. This involves full life cycle support from design development, equipment selection and system construction through the utilization and eventual disposal phase of systems and equipment.

We serve as the systems and equipment managers for all shipboard electrical systems. This function includes electric power generation, conversion and distribution systems; lighting systems; electric propulsion systems; machinery plant control, monitoring and alarm systems; and interior communications systems (i.e., Doppler Speed Log, Wind Speed and Direction, Gyrocompass, etc.). This Branch functions as the ultimate authority for the Coast Guard on all technical and logistic issues related to these systems and their equipment.

In support of the Acquisitions Directorate during new cutter and boat design and construction, we prepare electrical system/equipment performance standards and requirements. Additionally, we provide technical and logistical support to the PRO/PMRO staffs through efforts that include CDRL reviews, ECR development, provisioning guidance, etc.

Working with the Platform Management Division, ELC-027 Engineers, Provisioners and Item Managers address the existing fleet's system and equipment issues of obsolescence, safety, maintenance, repair, sparing, etc. Additionally, system/equipment recapitalization and new technology insertion are also addressed.

New DSD 412 drive hardware and software replaces no longer supported DSD 312 drives found aboard WLBs.

The long-standing performance issue of the 225' WLB thruster system is one of the fleet problems this Branch is working toward implementing an engineering solution. Seeking to resolve untimely thruster drive trips on these cutters, we are currently incorporating a multi-phased prototype approach which began on board Coast Guard Cutter (CGC) WILLOW leading to the recent installation of the final solution on board CGC ELM.

This final solution incorporates system upgrades to include replacement of the obsolete DSD 312 drive with the supported DSD 412; installation of a voltage regulator designed to operate under the power quality conditions imposed on the system by the drives; transformer to improve system's power quality; and a local area network between the bow and stern drives; and automatic reset feature.

New Basler DEC200 voltage regulator. Replaces analog voltage regulator on both "A" and "B" class cutters.

As a result of these upgrades, thruster system performance and reliability has greatly improved, along with the crew's confidence. The Engineering Change to accomplish this modification on all 225' WLBs is under development.

ELC-02L, Electronic Systems Lab

by Mitch Cornell

The Coast Guard has been in the business of electronic equipment support for many decades. One of the first facilities was the Electronics Engineering Center (EECEN) in Wildwood, New Jersey, that provided centralized electronic repair, system management and life cycle support to the Coast Guard for 49 years until decommissioning in 1997. On 22 September 1997, the ELC's Electronic Systems Lab assumed responsibility for supporting over 400 individual line items supported by the ELC's Appropriated Parts Account (APA) Program combined with related engineering projects.

AN/SPS-73 Surface Search Radar.

For the initial six years of operation, the original Lab was constructed at the end of the ELC Curtis Bay Warehouse. In Fiscal Year 2001 (FY01), the Coast Guard approved the ELC Warehouse Consolidation Project that included the construction of a new Lab. Subsequently, in May 2003, the Lab moved into a modern 12,500 sq ft facility that includes direct access to the new Moore Warehouse Complex, which facilitates streamlined equipment flow. Through meticulous planning and determination, Lab personnel moved approximately 300,000 lbs of equipment in a nine-day period. Approximately two months later, total operability was restored, and the seamless evolution was transparent to the fleet. The Lab's complimentary mix of civilian and military employees is challenged with providing quality products and services. Nowhere in the Coast Guard can electronic technicians get comprehensive theory and component level troubleshooting experience with reinforced repetition, a definite career enhancement. The Lab's external customers include the entire Coast Guard electronics community, including LORAN-C support for North America.

LORAN-C Solid State Transmitter (SSX) repair.

The Lab is comprised of unique sections, each responsible for overhaul and quality assurance for a particular electronic system. This includes a myriad of LORAN-C Systems, AN/SPS-73 Radar, Communications, Short-Range Aids to Navigation (SRAN), Differential GPS (DGPS) for both Maritime and Nationwide Systems, ATON portable computers and WHEC-378' Main Propulsion Control Monitoring System (MPCMS).

ATON Ruggedized Positioning Computer being readied for issue.

The Lab provides economical centralized support for several ATON (Aids to Navigation) critical items. This includes: the Aids to Navigation Information System/Automated Aid Positioning System (ATONIS/AAPS) Rugged Positioning Computers (RPCs) that are deployed to position aids-to-navigation; Radar Beacons (RACONs) for safe coastal

maritime navigation; and Fog Detecting equipment for automatic foghorn activation during low visibility.

Since developing the RPC support program in FY00, over 400 computers have been serviced, programmed with unit specific ATON data and expedited into service. The Lab provides 24 x 7 RPC duty coverage that ensures material delivery within the mandated 72-hour window following requisition receipt. RACON support has evolved through the years to include several versions of RACONS, and rigorous performance testing includes exposure in the Lab's environmental chamber at temperatures between -40°C and +70°C. Partnering with the Command and Control Engineering Center (C2CEN), the Lab recently completed the VM-100 Fog Detector overhaul program that included the implementation of multiple Depot Level Field Changes to a universe of 300 units.

Additionally, sound signal equipment (foghorns) is serviced. Included in the new Lab is a large 92"W x 98"D x 82"H Sound Signal Acoustical Enclosure with 7.75-inch thick walls weighing in at 5,052 lbs. The interior walls are double-lined fiberglass with vibration isolation material. The chamber entrance has four doors, double stacked, sealing a 74" opening. The accompanying test equipment provides audio level and frequency measurement capability from 30-130db and 31.5Hz-8Khz respectively, and allows support to eight APA internal components for the FA-232 and SA-850 horns, including timers, drivers, oscillators and power modules for each particular horn.

The Lab also supports V-850 and Odum Depth Sounders, SCCS-378 (Shipboard Command & Control Systems) STATNET Touch Screen Panels/Servers, Motorola Spectra/Saber and MCX-1000 VHF radio equipment.

The DGPS section provides support for 51 APA line items for the SC-1000 Maritime and MSK-5SS Nationwide DGPS beacon transmitters. To improve quality assurance testing, a 1KW antenna simulator was procured and modified to complete active testing at full rated output capacity.

Lastly, three other sections: Radio Navigation (RADNAV), Solid State Transmitter (SSX) and Automated Test Equipment (ATE) provide support for LORAN-C Timing and Frequency Equipment and SSX. Additionally, the ATE section uses specialized computer integrated test equipment to support repair activities for 65 APA line items that includes supporting the WHEC-378' MPCMS. The RADNAV and SSX sections provide continuous support to the 19 SSX LORAN Stations throughout the United States and Canada.

FY03 including the Lab relocation effort, and still over 7,000 items valued at approximately $16.5 million were overhauled and quality assured at the Lab.

Sound Signal Acoustical Chamber for Fog Horn Testing.

Component-Level Electronic Circuit Card Repair.

Radar and DGPS Antenna Platform atop the Moore Warehouse Complex.

ELC-03, Materials Management Division

by CDR Thomas Barone,
Andrea O'Connor,
Carl Landau and
Michael Petryszak

CDR Thomas Barone

The Materials Management Division of the ELC stores approximately 3 million pieces of inventory worth over $200 million consisting of 36,000 line items; manages a retail inventory that supports the CG Yard; and manages a temporary storage inventory for unique items stored at the ELC/Yard. The Division is made up of two Branches, the Storage and Distribution Branch and the Logistics Management Branch (which has four sections -- Technical, Inventory Management, Support and Transportation). We've recently closed our warehouse operations in Columbia, Maryland, and are now operating solely out of Curtis Bay, Maryland, in a new $12.6 million warehouse with wire-guided forklifts and several automated inventory retrieval machines. Initiatives underway to enhance our abilities include integrating FEDEX information with NESSS (the ELC's finance and logistics computer system) to improve our ability to send our customers the status of their requisitions, and moving to real-time handheld scanner technology to improve our ability to track our inventory and fill requisitions faster. We've also been managing a number of staging projects to efficiently deliver material to the field.

ELC-031 Logistics Management Branch, Technical Section - The Technical Section of 031 is staffed by five former CG YARD journeyman shipyard workers with over 140 years of cumulative experience in both ship construction/repair and logistics. The technical section of the ELC basically performs a front-end analysis of all items not stocked in wholesale inventory that are purchased by the ELC or the Yard. They also manage a database with over 10,000 technical descriptions of items in Retail Inventory that support Yard availabilities as well as long running Yard overhaul projects like engines and propeller hubs. The Technical Section decides acquisition strategies (MILSTRIP requisition or commercial procurement), supports Item Managers (IMs), matches material/equipment requirements to existing items in various inventories, and performs inspections in the warehouse to resolve discrepancies with both commercial and Other Government Agencies (OGA) suppliers. In addition to supporting our Yard customers, the Technical Section processes requirements listings for new vessel outfitting projects and the stand-up of new CG units like Maritime Safety and Security Teams (MSSTs) and Port Security Units (PSUs).

ELC-031 Logistics Management Branch, Inventory Management Section - The Inventory Management Section is made up of Retail IMs and Supply Technicians that perform MILSTRIP requisitions. Retail IMs are responsible for managing $16M worth of inventory to support the CG Yard's maintenance and service mission. They maintain economical quantities of stock for distribution to Yard shops upon demand. Important duties Retail IMs perform are to: determine stock levels, establish records for new items, administer federal supply groups and classes, manage critical items, manage material return programs, maintain accountable records and record adjustments, excess material and interact with their customers.

The supply technicians process requests from IMs and other customers for MILSTRIP Requisitions. Supply Technicians are responsible for the input of the MIL-

New Moore Warehouse at Curtis Bay.

STRIP requisitions through DAAS for distribution to the various Federal sources of supplies to fulfill requirements and issues of materials. Approximately 8,000 MILSTRIP requisitions are performed a year.

ELC-031 Logistics Management Branch, Support Section - Headquarters Projects: currently managing 24 active projects for HQ, C2CEN and TISCOM, valued at over 18 million dollars. ELC receives the material, inspects it to ensure compliance with the order, stows the material pending release by the HQ Project Officer, and ships material to the required destination upon notification through coordination with HQ and the unit to ensure delivery. Recent projects have included CG Standard Workstation recapitalization, Windows 2003 migration, Aids to Navigation modernization initiatives, Self Locating Data Marker Buoys, National Differential Global Positioning System overhaul, and Shipboard Command and Control System upgrades.

New Moore Warehouse at Curtis Bay.

ELC-031 Logistics Management Branch, Transportation Section - The ELC Traffic Office provides a highly responsive, efficient and cost-effective state-of-the-art traffic management program for the movement of material and equipment in support of the Coast Guard mission worldwide. Approximately 38,000 items are shipped per year. The ELC Traffic Office was chosen as the Center of Excellence for testing and implementing the Electronic Transportation Acquisition (ETA) System, U.S. Bank's PowerTrack™ financial processing system and the Coast Guard's Commercial Transportation Approval Payment System (CTAPS). This initiative focused on the replacement of the antiquated Government Bill of Lading (GBL) process and implementation of electronic technology utilizing best commercial practices. Using the ETA System, Global Freight Management (GFM) (a web-based, paperless, integrated bill of lading transportation program) reduces billing errors, payment delays for carriers and secures qualified, responsive carriers at competitive low cost freight charges while providing in-transit visibility of freight in the possession of the carriers.

In conjunction with the ETA system, the ELC Traffic Office uses PowerTrack™, a U.S. Bank electronic financial system that combines financial processing and electronic data warehousing capabilities into one comprehensive service. The system allows both shippers and carriers to see, in real time, all the transaction information related to the shipment. PowerTrack™ offers paperless, electronic payment processing thereby eliminating payment delays, a manual posting to general ledger accounts and a greater control of pre-payment audit tracking for funds managers.

CTAPS, a CG developed Intranet accessible system, is utilized by the payment authorizing officials for the purpose of approving accounting lines that will appear on the Program Element Status Report (PES) as a direct expenditure. The web-based system is paperless, very close to real time obligations, and streamlines the accuracy of the ledgers.

ELC has become the primary shipper for all Coast Guard deployment using military logistics systems, special air clearance requirements and alternate commercial transportation services to enhance ELC's preparedness in support of units deployed for "Enduring Freedom."

ELC-032 Storage and Distribution Branch - The Storage and Distribution Branch (ELC-032) is responsible for managing all warehousing of assigned classes and categories of Coast Guard equipment and material through efficient receipt, storage and distribution of these assets. The Branch manages warehousing support of a variety of material items essential to Coast Guard operational and administrative needs. Each workday, approximately 310 items are issued out of the warehouse and 120 receipts are processed for received material.

These operations occur in a newly constructed, $12.6 million facility located on the Coast Guard Yard. The new facility replaces, and occupies the footprint of, the previous warehouse and provides modern storage capability and effective use building cube.

ELC-032 provides receiving and inspection services for all material ordered for Wholesale, Retail and Temporary Storage, as well as MILSTRIP and OGA. Material is then stored for future distribution. When customers requisition materials from the ELC, a Material release order is generated and the items are picked, packed and shipped according to customer priorities, requirements and UMMIPS standards.

The Branch is also responsible for moving excess material and personnel property to Defense Reutilization and Marketing (DRMO) for disposal. A salvage lot is maintained for the processing and disposal of scrap metals generated by Yard operations and property disposal.

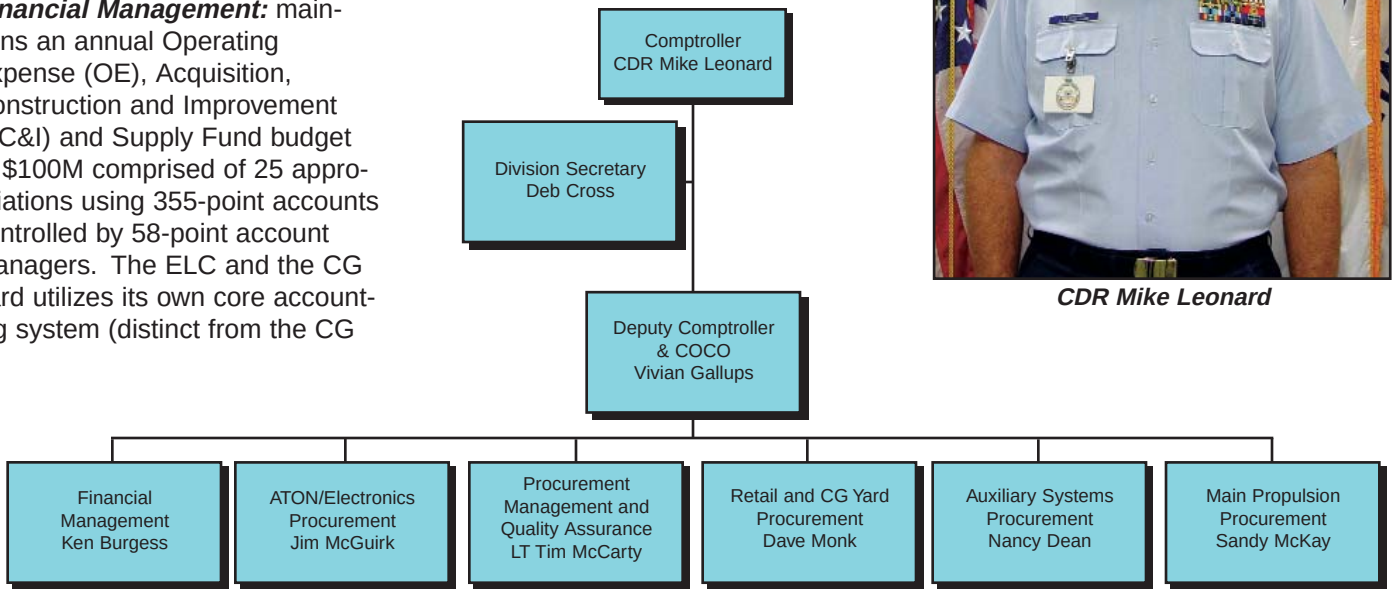
ELC-04, Comptroller Division

by CDR Mike Leonard

The ELC's Comptroller Division has 75 military and civilian billets with two primary responsibilities: Financial Management and Commercial Procurement.

CDR Mike Leonard

Financial Management: maintains an annual Operating Expense (OE), Acquisition, Construction and Improvement (AC&I) and Supply Fund budget of $100M comprised of 25 appropriations using 355-point accounts controlled by 58-point account managers. The ELC and the CG Yard utilizes its own core accounting system (distinct from the CG Finance Center) which is imbedded in overarching logistics operating system called the Naval and Electronics Supply Support System (NESSS). We use NESSS to maintain our financial ledgers as well as control our $220M of inventory assets stored in the warehouse. As a result of our "stove-piped" accounting system, we are not integrated with FINCEN and, therefore we must "push" our financial data to them on a monthly basis. This process provides ELC financial managers with a unique opportunity to experience all aspects of maintaining a stand-alone accounting system.



Procurement and Quality Assurance: comprised of four procurement teams supervised by one of the CG's 16 Formal Chief of the Contracting Office (COCO) positions. The teams are assigned procurement actions based on the equipment they support (Main Propulsion, Electronics and Aids to Navigation, CG Yard Support and Auxiliary). Each team is physically located alongside their respective ELC and CG Yard customers and is supervised by an experienced Contracting Officer (GS-13). Because the CG Yard has no procurement authority, the ELC assumes this responsibility for all CG Yard commercial acquisitions. In Fiscal Year 2003, the ELC procurement staff of 45 personnel expertly handled over 13,000 individual transactions worth over $82M.

The ELC has a Quality Assurance (QA) team utilized by the Contracting Officers to ensure our contractors provide the CG an asset or service that meets our contract specifications. The procurement management section continually monitors, measures and analyzes procurement performance to ensure we deliver the best quality product, at the right price and on time.

ELC-043, Quality Assurance Team

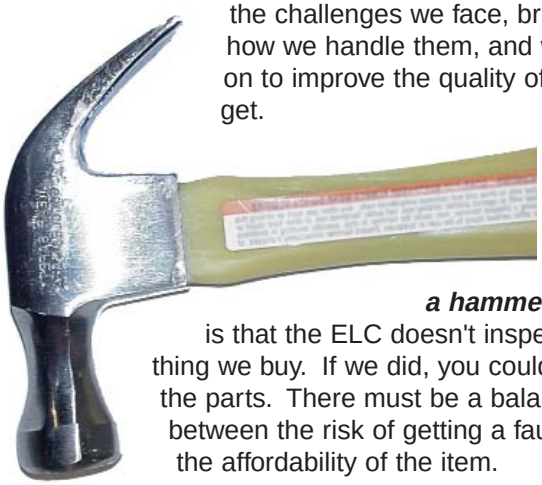
by CWO Ken Andersen

"I need some damn quality around here!" That's the message my old shipmate from Hawaii left on my phone. Of course, he was kidding. He called to let me know he was at the ELC for some business and he wanted to do lunch. I wouldn't have been surprised, though -- if the message was real, I mean.

How many times have you ordered something from the ELC and wondered what you were going to get? I remember getting a rusty seawater pump that leaked from the seal as soon as we installed it and opened the valves. Or how about getting a Condition "A" Cummins 903 engine that was really Condition "F" packed in a new crate?

It's been some years since these things happened to me, but I occasionally see similar complaints on the ELC ROD/QDR website. Doesn't ELC inspect the things they buy? If so, how do these things make it to the fleet?

In this article I'd like to describe some of the challenges we face, briefly explain how we handle them, and what's going on to improve the quality of the parts you get.



The Cost Of Quality: "Would you pay $500 for a hammer?" - The fact is that the ELC doesn't inspect everything we buy. If we did, you couldn't afford the parts. There must be a balance between the risk of getting a faulty part and the affordability of the item.

The Hammer - Imagine yourself as a contractor who makes hammers. If we required a high level of quality assurance standards for everything we buy, here's how it would look.

The Coast Guard wants you to provide 50, two-pound ball-peen hammers for their stock. The contract specifies chemical properties, mechanical attributes, micro-inclusion ratings, hardness testing and non-destructive testing requirements similar to what you'd expect for some exotic Space Shuttle component. The Coast Guard wants you to deliver a pre-production sample for evaluation by Quality Assurance Representatives (QARs). The QARs will also be performing a full audit of your quality and calibration programs to check compliance with the American National Standards Institute (ANSI), and to ensure your documentation is traceable to the National Institute of Standards (NIST). Before you can ship the items, the QARs will inspect every attribute of every hammer, which must then be packaged individually to a level that would survive a nuclear blast, or storage for up to 20 years. Of course, a standard 10-year warranty applies, and for your efforts you won't be paid for at least a couple months after you deliver them. A $500 hammer? You bet!

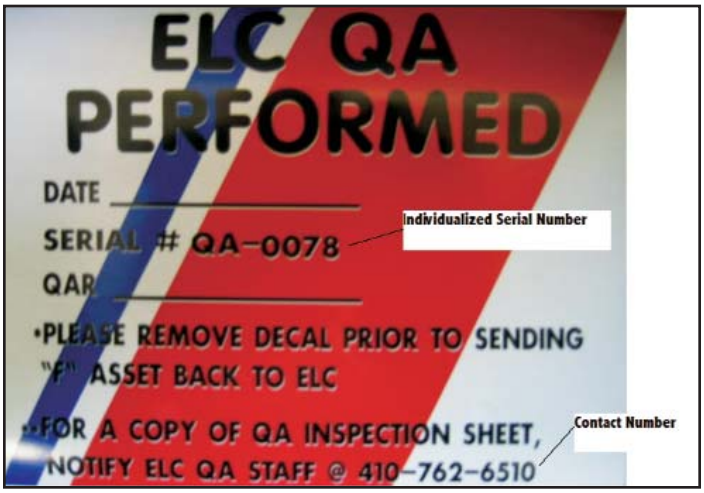
This is ludicrous. What are the risks and repercussions of getting a faulty hammer? They don't balance with the cost. Therefore, we must be cautious and selective about what gets held to such high quality standards.

Critical Underwater Appendages - In some situations, we can't afford to have a faulty part at all. If the head of the hammer falls off, you go get another one. If a blade falls off your propeller, we've got some serious issues to discuss.

Recently, ELC initiated a mandate to address these critical underwater appendages, or CUAs, that requires a level of inspection similar to that described for the $500 hammer. This CUA mandate generally applies to rudders, shafts, shaft bearings, propellers, fin stabilizers, shaft seals, struts, strut bearings and the like. These items, included in a somewhat comprehensive list, must have all attributes 100% inspected, including the packaging, preservation and marking.

These contractors are testing a 378 propeller hub after overhaul. QARs are required to witness and confirm 100% of Critical Underwater Appendage tests and attributes.

As part of the mandate, ELC's Quality Assurance was tasked with implementing a CUA decal program. After a QAR completes inspections on a CUA item, a decal will be applied on the part and on the outside of the shipping crate. The decal indicates when the part was inspected, by whom, and provides a phone number. The "end user" can call the phone number to request inspection details, if they are needed. The phone number, by the way, belongs to the Quality Assurance/Procurement Management Branch Chief, LT Tim McCarty. The decal contains some important information, such as the serial number. This number is used to track the inspection and data collected on the part. The Branch Chief can access an electronic copy or hard copy of this data at any time. If the decal is broken or damaged in any way, you should call the contact number to determine if the asset is truly an "A" condition asset. The decal must be removed, as indicated on the decal, and discarded prior to returning the "F" condition asset to the ELC, preventing problems for your fellow shipmates.



Everything Else … - The hammer and the propeller are polar extremes. Between them are all the other things ELC provides: from pumps, turbochargers and engines, to flags, folders and wardroom china. Each of these requires some level of quality control.

Good contractors maintain their own quality controls and can often be trusted to produce good quality stuff. They may only require an occasional visit from our QARs to document their compliance. Keep in mind; however, they are all in it for the money, so they must be inspected occasionally to make sure they're not cutting any corners for a little extra Christmas bonus. I'm not saying they are devious, merely human.

We rely on our contractors to be the experts and provide us with good parts. Problems occur when they make assumptions. They may deviate from the contract a little, thinking it's for our own good.

For example, a contractor who makes shafts for us decided to start packaging them a little better. "Why not put two in the same crate? It would save space and money." (Save money for them, anyway.) They didn't consult ELC -- didn't read the specification completely -- they just went ahead and did it. Believe me, they looked great! You wish your house were built as well as these crates. But there are two shafts in each crate. Why not? When only one shaft is ordered, we have a problem at the warehouse. One shaft would be shipped and the other would be without a crate. The contractor didn't see the part of the specification that states, "Each shaft shall be individually packaged." They ended up losing money because they had to scrap the two-shaft crates and start over. They wish they had called before they tried to "help" us.

Another problem is complacency. We often find that our good, long-standing contractors miss things because they didn't read the specification thoroughly. "Oh, we've always made it this way," they'll say, or, "Never saw that in the contract, when did that get changed?" Likewise, the QARs have to be vigilant to avoid complacency of their own. It would be easy to fall into the habit of doing things from memory instead of looking up the references and reconfirming the tolerances each time. To prevent costly mistakes, QARs must thoroughly prepare before performing inspections. We can't afford mistakes -- we are, after all, Quality Assurance.

What about minor things like award folders and wardroom china? We normally don't visit these facilities. ELC requires them to give us pre-production, or First Article samples. A visit is only needed when we have a new contractor, the contract specifications have changed significantly, or there have been problems with the products. By backing off on QA involvement, we keep the cost down and put the money where it is needed. No sense buying Space Shuttle dishware for HAMILTON's wardroom.

The Quality Assurance Team - ELC has a team of seven Quality Assurance Representatives, an effective mix of civilian and military. Here's the team:

Mr. Matt Wentzler, GS-12, QA Team Leader: retired CWO3 (eng)
Mr. Dan Dressel, GS-11: prior Navy and CG Yard machinist
Mr. Dave Wells, GS-11: retired CG Chief Electronics Technician
CWO (eng) Ken Andersen
DCCS Fred Cochran
ETCS Rich Hilditch
EMC Basilio Flores

QAR Dave Wells inspecting a 110 WPB Propeller Shaft.

Most of our time is spent on the road, with short breaks in the office to file travel claims and prepare for the next trip (I'm actually writing this in my hotel room in Seattle). Our Branch Chief, LT Tim McCarty, also performs as a QAR when needed.

Improving The Product - ELC has made many changes over the years since the old days. Restructuring of billets and reassignments within the command are common. A new warehouse has been built to consolidate stock from various locations to better manage the receipt, storage and issuance of parts. ELC's website provides access to the various Divisions and Branches within the Command and provides an easy online submission of Reports Of Discrepancy (RODs) and Quality Deficiency Records (QDRs). The old tedious way of filling out forms and mailing them are gone.

The submission of RODs and QDRs provides valuable feedback to the ELC. You should know that without feedback, we don't know there are problems with your parts. Without any complaints, there is no need for heightened quality assurance inspections. In fact, QA may be removed altogether if we think everything is peachy. Inspections are required on critical parts (CUAs), but other items, say auxiliary saltwater pumps for example, depend largely on the history of complaints.

The Quality Assurance Team does more than inspections. Another big part of our job is Specification Reviews. If a contract specification is well written -- and the contractor actually reads it -- we will be more apt to get a good product. Like the detailer says, "Be careful what you ask for," the same goes for contracting. If you order a shaft and only specify length and diameter, don't be surprised when you get your exact dimensions, but the shaft is bent like a banana.

The ELC is increasing the involvement of Quality Assurance more every year. We have more contracts and perform more Specification Reviews than ever before, but with the same number of QARs. To handle this change, we had to make some systemic changes.

Over the past couple of years the Quality Assurance Branch has evolved. Each contract used to "belong" to a certain QAR. That QAR would be the only one to perform inspections on that contract. This worked well with the workload at that time.

QAR DCCS Fred Cochran witnesses measurements of a buoy solar panel mount.

Now, although we still assign each contract to a QAR, we often share the inspections, and assign a "backup" QAR. With the diverse team that we have, this is not only possible, it's smart. To do this effectively, we have to prepare for inspections well before hand, creating checklists and organizing the contract folders. By sharing responsibilities, we alleviated the "proprietary" nature of the assignments. A wonderful by-product of this change is the fostering of a team spirit, which can only contribute to the overall quality of the products you get.

The Quality Assurance Team is taking on new challenges and improving the way we do business to meet the ELC's vision, "The right part, at the right price, at the right time." By recognizing critical components, selectively assigning appropriate quality assurance levels, maintaining preparatory vigilance, and leveraging team diversity, ELC Quality Assurance is making vast improvements in the quality of the parts provided to the fleet. ST

ELC-043, Next Generation Activity Based Costing and Management at the ELC

by LT Will Budovec

Efficient and effective use of government resources is every taxpayer's goal. Continuous improvement of operational capability is what management continues to strive for. Everyone is in agreement that it's in the best interest for society, for the Government, the Department of Homeland Security, and the Coast Guard to be able to deliver the maximum amount of services at the best value. But how do we know if we are accomplishing these goals? Without an effective cost and performance management system, these lofty goals fade into simple rhetoric. On a local level, the ELC is beginning to develop a cost and performance management system that will be capable of answering the question, are we using our resources as efficiently as possible?

Before embarking on the development of a cost and performance management system, the ELC explored the best practices present in both government and the private sector. The use of Activity Based Costing (ABC) methodologies came back as one of the leading practices used by world-class organizations. Given this knowledge, the ELC has partnered with Acorn Systems/COGNOS to conduct a pilot program for a next generation ABC program at the ELC. The goals of this pilot are to use event driven costing methodologies to acquire cost, capacity and comparative effectiveness data. While the data from the pilot may be limited in scope, the ultimate goal would be to have this information available to assist management in making resource/personnel allocation decisions, A-76 studies, internal and external benchmarking, major product line add/drop decisions and general business process review.

The technology employed by the ELC and its partners is known as Event Driven Costing (EDC). EDC is a business analysis system that provides an organization with a wide variety of cost and performance data. EDC will provide a final cost to provide a product or service that can be easily decomposed to show resource costs broken down by customer or activity type. EDC will also summarize and compile operational data and provide for quick cost versus performance analysis.

EDC can be thought of as a spin off from traditional ABC. ABC and EDC both have the same general premise, that resources (people, money and equipment) perform activities (negotiate with vendors, place orders) that lead to end level products (provide contracting services). Under EDC, resources and activities are assigned in a manner different from traditional ABC. Traditional ABC assigns personnel costs based upon input from employees. In general, employees are periodically asked how much of their time is spent on a given activity. This information is then used to drive the cost of that employee to the activities they perform. Under EDC, mathematical expressions are written to represent different activities. These expressions contain a series of factors that determine how much time an employee should be spending on a given activity based upon how many of the complexity factors apply. Once these mathematical expressions have been determined, periodically surveying employees for time allocation becomes unnecessary. The EDC methodology offers several advantages over traditional ABC including:

EDC allows management real time (not periodic, as with traditional ABC) access to summarized cost and performance data;
EDC does not require complex time and attendance systems or require employees to fill out time surveys;
EDC allows activities to be decomposed in an easier manner than traditional ABC methods;
Decomposition of activities allows EDC to segregate customers within a product or service line and determine cost and performance data; and
EDC will give capacity related data along with cost data (traditional ABC generally assumes the organization is fully employed).

ELC's initial pilot program is on schedule for an end of June delivery. Following the completion of the pilot, the proposed system will be evaluated for potential application across the ELC. If successful, the implementation of this new cost and performance management system will assist senior leadership to track both the cost and performance of ELC resources as well as make important resource allocation decisions.

ELC-05, Information Management Division

by Jim Lane

Jim Lane

The Information Management Division, ELC-05, is comprised of four Branches with the responsibility of centrally managing all of the command's Information Technology (IT) resources.

Division Chief	Mr. Jim Lane	(410) 762-6549
Chief, Systems Planning and Directives Branch	Mrs. Ruth Roskam	6589
Chief, Hardware/ Software Branch	LCDR Ron Riedinger	6579
Chief, Vessel Logistics System Sustainment Branch	LCDR Mitch Ekstrom	6641
Chief, Tech Information Management Branch	Mr. Mitch Frid	6814
Administrative Support	Ms. Anitra Green	6548

The Information Management Division is responsible for providing Vessel Logistics System (VLS) sustainment support activity in the form of business system user support and training for VLS applications such as: Fleet Logistics System (FLS), Naval and Electronics Supply Support System (NESSS), Configuration Management Plus (CMplus) and Naval Engineering Technical Information System (NE-TIMS).

VLS can best be described as an enterprise logistics and financial system that merges functionality and data from independently designed applications to provide the end user all relevant data through a single interface. Specifically, VLS integrates the functionality of FLS, CMplus, NESSS, NE-TIMS and Automated Requisition Management System (ARMS) applications.

Business system user support provided by the Division may include analysis of automated business policies, procedures and processes; serving as the Command's subject-matter-experts for FLS, NESSS, CMplus and NE-TIMS; managing and maintaining a first-tier FLS and NESSS Help desk for ELC users; and managing COGNOS application report development. COGNOS is a web-enabled reporting tool that gives us the ability to mine data from our enterprise composite applications.

In addition to VLS support, the Division is responsible for providing IT support throughout the Command, such as managing and automating the Command's directives system, and a readily accessible repository of ELC documented policies and business processes (see figure below).

ELC's Directives System.

Go to: http://cgweb.elcbalt.uscg.mil/ELCDirectives/ELCDirectives.htm

The Information Management Division manages all ELC non-standard systems, associated software and peripherals. Non-standard systems include those systems that are not supported via the Coast Guard's standard workstation III network, but are needed to support our business processes. Examples include a 40+ Engineering Local Area Network that provides our Engineers in the Equipment Management Division the required software applications necessary to conduct their design and analysis work. Also included are our Time and Attendance system, that supports not only the ELC but the CG YARD, and our wireless barcode Warehouse Management System (WMS) that is further described in the Hardware/Software Branch overview.

All four Branches regularly interface with our partners at the Operations System Center (OSC) and the Electronic Support Unit/Electronic Support Detachment for hardware, software and telecommunication support -- ultimately receiving program level guidance from our Headquarters Program sponsors in G-SLI.

Lastly, the Division provides a variety of web and Microsoft Access database application support services and manages the Coast Guard's hull, mechanical, electrical and electronic cataloging and technical information storage activities.

ELC-051, Systems Planning and Directives Branch

by Ruth Roskam

The Systems Planning and Directives Branch is located within the Information Management Division at the ELC. This branch consists of one E-6 Petty Officer who is responsible for development and maintenance of the $1.4M divisional budget and eight (8) supply systems analysts. The analysts are responsible for managing the commands directives system, analyzing business policies, procedures and processes, and recommending improvements, management of desk/user guides, command POC with other agencies for Federal Supply System, responsible for all external data calls and management of COGNOS applications. We serve as the command's liaison with Operations System Center (OSC) for software support of the Naval and Electronics Supply Support System (NESSS). We are the POCs for all Information Resource Management (IRM) contract software support which includes development of engineering change proposals, identifying software problems, resolving user problems, beta testing software changes prior to deployment and membership on the NESSS configuration control board.

ELC-052, The Hardware/Software Branch

by Ron Riedinger

The Hardware/Software Branch provides information technology and telecommunications support throughout the ELC. Many outside the Command also benefit from our services. You may already be familiar with some of the many ELC products and services that the Branch supports on the ELC Intranet site: http://cgweb.elcbalt.uscg.mil/.

The webmasters in the Branch work with content managers throughout the ELC to maintain and present over four gigabytes of material. This content has grown rapidly with the greater use of web databases.

ELC Products & Services List

- 175' WLM Support
- 175/225 PMP
- 41' UTB PMS Cards
- 44' MLB Support
- 87 WPB PMS Support
- ATON & General Stores
- BOSS NSN Listing
- CG Fuel Testing Program
- CMP
- Damage Control & Firefighting
- Dry Docking Avail Status Rpt
- EC Status (DARTS) database
- ELC Supply Advisories
- ELCLOG Newsletter
- Electronic Equipment - APL
- Elex Nomenclature Request
- Engineering Changes
- ESWBS Database
- Excess Property
- FCCSWin Program
- Information request
- Integrated Logistics Review
- Lifecycle Management Plans
- M4410.5 manual
- Mandatory Turn-In Program
- Manufacturer's Codes
- MICA Update
- Milstrip Ordering Proc
- Mission Effectiveness Project
- MPCMS
- Naval Arch Feedback
- NE-TIMS
- NIIN Changes for Project
- ODR Monthly Report
- OPNAV 4790/CK
- Over the Horizon Boats Proj
- PMS Manuals
- RCM Tiger Team
- ROD/QDR Status Report
- Standard Drawing Borders
- Support Gram - ELEX
- Support Gram - HM&E
- CGPMS Feedback Form
- Customer Survey
- Points of Contact at ELC
- Telephone Directory

The ELC Intranet site is run on a dedicated server on-site. This server, its backup and web development system are some of the specialized systems that the Branch manages. Other specialized systems are used for the engineering and logistic roles of the Command. Forty-three workstations and servers are managed separately from Standard Workstation III (SWIII) systems to run unique applications for naval, electrical and mechanical engineers and architects. Also included are 40 wireless handheld devices and servers as part of the Warehouse Management System III (WMS III).

WMS III is the third generation of handheld barcode scanning systems used in the ELC warehouses. Warehouse staff use the handhelds to scan stock as it is stored, picked, packed and shipped. The system has been installed in three warehouses covering over 250,000 sq ft. The devices communicate using the popular 802.11b standard. To guard against the potential security risks of this standard, WMS III uses Federal Information Processing Standard (FIPS-197) certified hardware and software to encrypt all wireless communications. WMS III has passed both Coast Guard and DHS (Department of Homeland Security) reviews and is described more thoroughly at: http://cgweb.comdt.uscg.mil/g-scc/ECP/12_ELC/12_ELC.htm.

In addition to the web databases, the Branch supports 28 multi-user Access databases used within the Command. Many of these databases are used for administration support: personnel/billet management, training, telephones, etc. To ensure protection for privacy act information, all sensitive information is contained in an isolated database limited to essential administrative personnel. Billet and other organizational information is shared across the databases to standardize the information and eliminate duplicate entries.

Symbol 8146 Handheld Data Terminal.

Other Access databases support particular business processes. Examples include the customer service database used for managing external service requests, the Electronics Lab's Electronic Maintenance Reporting Information System (EMRIS), and a shipping database for the Mobile Support Unit to track items sent to the Iraqi theatre.

The Branch works closely with Electronic Support Unit (ESU) Portsmouth and Electronic Support Detachment (ESD) Baltimore in supporting the Command's use of 560 SWIII computers. This support encompasses a broad range of services: training, equipment moves and inventory, Internet monitoring and blocking, video teleconferencing, remote access via home computers or notebook computers, and two Citrix servers on-site.

The ELC's Hardware/Software Branch strives to meet the information technology and telecommunications needs of the Command and our external customers. We welcome the opportunity to share or discuss our services and solutions or developing needs. For the Branch's technical points of contacts please see: http://cgweb.elcbalt.uscg.mil/poc052.htm.

Air Fortress AF1100 Encryption Hardware.

ELC-053, Vessel Logistics System Sustainment Branch

by LCDR M.C. Ekstrom,
Anthony Marshall (MLC LANT),
Linda Atkins-McNeil (MLC PAC) and
LCDR Stuart Ehrenberg (OSC)

On 16 April 2004, the ELC welcomed its newest staff element, the Vessel Logistics Sustainment Branch (VLSSB).

Who we are: You may better recognize the former name of this Branch as the Configuration Management Implementation Team (CMIT). The CMIT was created in 1992 for the purpose of gathering configuration data for the Configuration Management (CM) Project. Originally part of an AC&I project, the CMIT's world of work directly supported the implementation of the Configuration Management Plus (CMplus) software application throughout the service. During its existence, various project needs morphed the team's work from configuration validation to wall-to-wall inventory and finally, to CMplus deployment, application training and second-tier help desk support for CMplus.

What we do: The VLSSB will retain the deployment, training and second-tier help desk functions formerly supported by the CMIT. In the future, as resources are identified to perform the work, we will take on additional responsibilities with respect to the ELC's role in the Coast Guard Vessel Logistics System (VLS); primarily as expertise and business area advisors for the Fleet Logistics System (FLS). For the sake of clarity, the VLS is a family of software applications consisting of the FLS, the Naval and Electronics Supply Support System (NESSS), the Naval Engineering Technical Information Management System (NE-TIMS) and CMplus.

Why we changed: As the AC&I dollars for the CM Project wind down and the systems acquired have been fielded, there is a need to resource the Coast Guard's efforts to use the VLS applications. So, rather than stand down the CMIT, the Naval Engineering Program Guidance Team approved reprogramming them as the VLSSB under the ELC to support their efforts to best use and help improve the capabilities of the VLS. Additionally, the ELC has undertaken a separate initiative to hire contract support for the MLCs to aid in the deployment and support of CMplus and to better resource them in their roles as VLS users and supporters of VLS users.

Where we are: The VLSSB is ELC-053. Our offices are located in building 31 on the Yard campus of the ELC. The mailing address is:

Commanding Officer, U.S. Coast Guard
Engineering Logistics Center
2401 Hawkins Point Road, Code 053, M/S 26
Baltimore, MD 21226

When to contact us: If you are an operational unit with a CMplus software issue; i.e., your CMplus software is not working, your first call should be to the Operations System Center (OSC) Customer Support Division (CSD) at (304) 264-2500 or 1-888-USCG-SYS (872-4797). The OSC provides first level support. If you stump them, they will contact us and get back to you. Whenever practical, they will do a three-way call between you, them and us, so that you can get your answer in one phone call. Allow me to take a moment to stress the importance of **calling the CSD first**. This procedure makes the best use of scarce resources, provides the most responsive service possible and captures the workload represented by customer support of CMplus. Also, by funneling all calls through the CSD, we are better able to track trends and identify and fix bugs.

If you have usability questions (CMPlus is working, you just need help finding/using a feature) your first call should be to your respective MLC. Each MLC has a Centralized Supply/CMplus Assist staff. At present, the MLCs are funded to support CMplus cutters, but they will assist any MLC CMplus unit depending upon available resources. MLC LANT's CS/CMplus Assist Team Leader is Mr. Anthony Marshall at (757) 628-4554. MLC PAC's CS/CMplus Assist Team Leader is Mrs. Linda Atkins-McNeil at (510) 437-3258. Each of these teams has a great deal of information available on their respective MLC websites.

If you have questions about CMplus 5.0 deployment, issues with barcode equipment, or if you have stumped the CSD, your MLC and/or you aren't sure to whom you should address your particular issue, feel free to contact the VLSSB.

How to reach us:

Name	Email: 1stInitialLastName @elcbalt.uscg.mil	Phone (410) 762-
LCDR Mitchell Ekstrom	mekstrom	6641
LT Andrew Motter	amotter	6616
LT Philip Bruce	pbruce	6647
ENS "Jerry" Hewes	jhewes	6648
CWO Gene Bear	gbear	6651
CWO "Jack" Jackson	jjackson	6642
CWO Alberto Garofalo	agarofalo	6649
CWO Bryan Stiers	bstiers	6645
MKCS Sawyer	jsawyer	6646
ET1 (Vacant)		6650
SK1 Keith Lewis	kllewis	6643
CMIT FAX		6050

ELC-05T, Technical Information Management Branch

by Mitch Frid

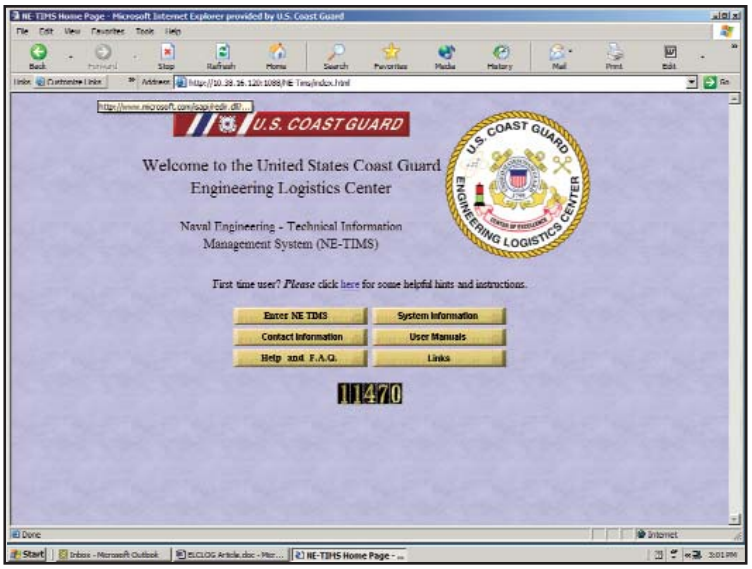
The Technical Information Branch is the home to all active drawings and Hull, Mechanical and Electrical (HM&E) technical publications for Coast Guard cutters and boats. Although electronics equipment technical publications are managed by SMEFs (e.g., TISCOM and C2CEN), we hold copies of many of these electronics technical publications in ELC-05T.

No matter whether you are assigned to the oldest cutter in the fleet or a newly constructed one just coming out of a shipyard, ELC-05T is ready to assist you with technical information needs. Shore units -- from small boat stations, all the way to Headquarters -- will also find the Technical Information Management Branch is a resource that puts updated technical information literally at your fingertips.

NE-TIMS: Where Tech Info Meets Info Tech - One of our key products is the Naval Engineering Technical Information Management System (NE-TIMS). Now in its fourth year of operation, NE-TIMS is available to anyone with a computer connected to the Coast Guard Intranet (CGDN+). NE-TIMS can be easily accessed at http://10.38.16.120:1088/ne-tims/index.html. Many Coast Guard shipboard engineers and shore-based support personnel routinely use NE-TIMS to call up needed drawings to review and print. New material is being added daily to provide you with the latest technical information.

While the majority of Coast Guard drawings have been in NE-TIMS since its inception, the number of technical publications available in the system at delivery was relatively small. This situation has changed within the last several months, and now over 99% of our H&ME technical publications are available in NE-TIMS. Although we are not managers for electronic technical publications, approximately 300 of the active electronics manuals have been loaded into the system as well. NE-TIMS users can consult technical publications online, search for information within a tech pub, and print out any pages or sections missing from their hardcopy tech pub. In addition to loading the remaining technical publications into NE-TIMS, Branch efforts are focused on adding bookmarks and other features to online technical publications to make them easier to use and navigate.

If you're looking for a complete list of drawings or tech pubs for a cutter class but don't want to print out the HTML format results from a query in NE-TIMS, there is another option. From the NE-TIMS Home Page, click the button marked "Help and FAQ." From there click either "Drawings" or "Technical Publications" and go to the last question in the list. The link provided allows you to download an Access database with drawing or technical publication data extracted from the NE-TIMS database.



Because cutters cannot connect to the CGDN+ (Coast Guard Data Network+) when underway, the Technical Information Management Branch creates CD-ROMs with drawing information for their class and sends them to the cutters, as well as some support commands. Updated CD-ROM sets are sent out annually to incorporate any new or revised information. Now that technical publication incorporation is almost complete in NE-TIMS, CD-ROM distribution of book marked Tech Pubs for many cutter classes has begun in earnest. Several sets have already received an annual update.

A call to Mr. Mitch Frid, Chief, Technical Information Management Branch at (410) 762-6814 will guide you to a staff member who can assist you with a technical information product. All of us in the Branch look forward to working with you.

ELC-06, Deepwater Management Office

by LT Travis L. Carter

Larry Wilkerson

ELC Deepwater Office

Commanding Officer (06)
Engineering Logistics Center
2401 Hawkins Point Rd. MS 26
Bldg. 31 First Floor
Baltimore, MD 21226-5000

Office Chief
Mr. Larry Wilkerson
(410) 762-6110

IDS Cutter Platform Manager
LCDR George Lesher
(410) 762-6107

IDS Boats Platform Manager
LT Travis L. Carter
(410) 762-6030

ILS Systems Manager
Mr. Alan Haddaway
(410) 762-6108

Award of the Integrated Deepwater System (IDS) contract, the largest single contract in Coast Guard history, in June 2002, created the greatest need for organic Coast Guard Engineering and Logistics consulting services ever required. To support this major new program, ELC proactively stood up the Deepwater Management Office (ELC-06), several months prior to IDS contract award. Since inception, ELC-06 has ensured that appropriate Engineering and Logistics subject matter experts from across ELC have been engaged in a timely manner to provide inputs to IDS asset design efforts and to IDS Integrated Logistics System architecture development.

ELC's engineering subject matter experts have supported design, construction and testing efforts for all surface acquisitions, providing critical knowledge for key decisions in the areas of Hull Form, Structures, Habitability, Propulsion Systems, Auxiliary Systems, Electrical Systems, Electronic Systems, etc. ELC's Engineers are working vigorously to ensure that the surface assets designed by Integrated Coast Guard Systems (ICGS) meet all applicable safety and operational performance requirements, and will be supportable and maintainable throughout their service life.

ELC's logistics subject matter expertise, critically selected to support the IDS program, includes those individuals with thorough working knowledge in areas of Supply Chain Management, Configuration Management, Maintenance and Modernization, Technical Data and Logistics IT Systems. ELC's Logisticians are focused on ensuring that the new IDS Integrated Logistics System will give the operators and maintainers of Coast Guard assets the parts, information and services they need to successfully complete Coast Guard missions. ELC-06's ILS Systems Team goes one step further in focusing on built-in reliability, maintainability and availability of Coast Guard assets through improved, re-engineered Logistics processes. ELC-06 coordinates the Knowledge Management (KM) of the content of the vast amounts of input from ELC's subject matter experts across all assets and functional areas of IDS. This KM effort includes extensive review of contract deliverables, design plans and specifications, system requirements and business processes. The ILS Systems Team coordinates an integrated response to asset design and ILS architecture issues; coordinate integration between legacy systems/processes and IDS systems/processes; and regularly reports progress on all initiatives to higher authorities.

ELC-06 supports the acquisition of new surface assets and the new ILS Systems, while also supporting the integration and interoperability of the new ILS System with the legacy ILS Systems. These efforts are accomplished by providing management oversight to the execution of plans of action and milestones, targeting the Command's strategic objectives. Specifically we:

Coordinate and maintain ELC IDS Integrated Product Team participation. The Integrated Product Team (IPT) structure of the IDS program is extensive. ELC-06 members are working in empowered positions on many teams such as the Logistics System Architecture Development Team (LSAD), Logistics Policy and Process Development Team (LPPD), Logistics Information Management System Team (LIMS), Performance Measures Working Group, Business Process Reengineering Teams (Maintenance, Supply Chain, etc.), Technical Data Working Group, WMSL (WHEC replacement) IPT, WMSL Integrated Logistics System sub-IPT, 123' WPB IPT, 123' WPB Integrated Logistics System sub-IPT and the Short Range Prosecutor Integrated Logistics System sub-IPT.

Coordinate ELC integration of Deepwater and non-Deepwater processes. One of ELC-06's primary functions is to facilitate the integration of new IDS processes with current legacy processes. In keeping with the Coast Guard motto of "Semper Paratus," ELC-06 is taking action to be ready to support the IDS fleet with no apparent disruption to operational personnel.

Provide expertise and guidance in the development of policies, standards and best practices for integrated logistics and engineering to be used in the development of Coast Guard assets and platforms. This objective ensures that the IDS contractor, Program Office and Integrated Product Teams are considering the unique attributes of the Coast Guard's mission requirements and support requirements in the development and innovative design of IDS assets and logistics system.

ELC's Deepwater Division, ILS Systems Management Team

by Alan Haddaway

ELC's Deepwater ILS System Management Team would like to tell you a little about our team, its members and what role we play in support of the Deepwater program.

We are sure by now that most of you have heard about the Coast Guard's new major acquisition program called DEEPWATER. This acquisition is better known as the Integrated Deepwater System (IDS), with the key word being "Integrated." In the Logistics world, we use the term Integrated Logistics Support, or for short, ILS. Webster's definition of the word "Integrated" means to make whole, or make into a whole by bringing all parts together, to become integrated or undergo integration. This is exactly what the ELC's Deepwater ILS Systems Management Team is doing, integrating system level logistics planning with asset level planning.

The Team is comprised of Subject Matter Experts in Supply Chain Management (SCM), Maintenance and Modernization (M&M), Configuration Management (CM) and Information Technology (IT). In addition, we have an on-site representative from the IDS contractor's office, who functions as a liaison between the Coast Guard and the contractor to work day to day logistics issues. The System ILS Management Team is collocated with both the Cutter and Boat Management Teams, and communicates daily to discuss planning efforts and resolve logistics issues across the program. Team personnel reside on Integrated Product Teams and functional Working Groups providing Coast Guard insight, experience and subject matter expertise to the contractor. In addition, we play a key role in the collaborative development, review, testing and execution of functional requirements for the Logistics Information Management System (LIMS) and the various ILS processes needed to support IDS's many assets.

Mr. Alan Haddaway (410) 762-6108
(Team Leader/Supply Support)

LT Travis Carter (410) 762-6030
Configuration Management/123' Platform Manager

LTJG Paul Rishar (410) 762-6046
Maintenance and Modernization

Ms. Lisa Parks (410) 762-6545
Information Technology

Mr. Regis McClosky (410) 762-6102
ICGS Site Representative

We would like to share several examples to illustrate how our ILS Systems Management Team is making a difference by integrating and planning work initiatives across the IDS ILS system and asset level entities.

- **Supply Chain Management (SCM)** - Ensuring that new SCM processes being adopted meet existing DoD (Department of Defense) and Coast Guard requirements. Incorporate asset level personnel in system level planning sessions to ensure that asset level perspective is considered for key system level decisions.

- **Maintenance & Modernization** - Identified program need and secured funding to retain subject matter expertise in the area of Reliability, Maintainability and Availability (RMA) engineering. This initiative was key to driving efforts to define National Security Cutter (NSC) mission critical systems, defining required analyses and successfully maintaining cutter operational availability goals.

- **Configuration Management** - Pushed use of existing M9000 Engineering Change Process for legacy 123' WPB (Patrol Boat) equipment when developing integrated processes with the contractor.

- **Logistics Information Management System (LIMS)** - Worked closely with 123' WPB support personnel to communicate end-user feedback to the contractor for resolving application and process problems. Identified need to restructure contract using existing SWIII computers as opposed to unnecessarily purchasing new ones resulting in a savings for the Coast Guard.

ELC's Deepwater Division, Boat Management Team

by Alan Haddaway

Greetings from ELC's Deepwater Boat Management Team!

The Deepwater Boat Management Team participates on a daily basis in the Integrated Deepwater System's 123' WPB (Patrol Boat), Short Range Prosecutor (SRP), Long Range Interceptor (LRI) and logistics Integrated Product Teams (IPTs) that focus on integrating new Deepwater surface assets and logistics systems with our CG legacy assets and systems. We also manage the 123' WPB configuration documentation, Engineering Changes and coordinate supply support when high-level intervention is needed. We are many links up the sustainment support chain from the cutter crew we service. However, we are always here looking out for the fleet's best interests. We are a group of been-there-blue-suit engineers with many years of sea time, combined with a civilian logistics manager with a diverse background from shipyard metalworker and welder to 47' MLB (Motor Life Boat) Project Logistics Management experience.

The Boat Team is collocated with both the Deepwater ILS and Cutter Teams, and communicates daily to discuss planning efforts and resolve logistics issues between the system level and asset level across the program. We also communicate daily with ELC's Patrol Boats Branch (ELC-012) to ensure seamless collaboration between the 123' and 110' WPBs.

LT Travis L. Carter (410) 762-6030
Boat Section Team Leader/123' Platform Manager

CWO Allen Collins (410) 762-6044
123'/LRP/SRI Type Support Manager

Mr. Abraham Loyal (410) 762-6183
123'/LRP/SRI Logistics Manager

MK1 John Curtis (410) 762-6125
123'/LRP/SRI Configuration Data Manager

123' WPB (110' stretched).

Here are a few examples where our Boat Management Team is contributing to the Deepwater program.

- **123' WPB Acceptance Trails (ATs)** - Board member for the acceptance of the 123' WPB. Provide Naval Engineering expertise for the evaluation of all Legacy and new HM&E systems.
- **Maintenance & Modernization** - Work closely with the contractor to ensure new and existing Condition Based Maintenance (CBM) and Preventive Maintenance (PM) procedures are in place.
- **Configuration Management** - Manage configuration data for the Legacy systems of the 123' WPB fleet (note: ICGS maintains the configuration documentation for all new systems incorporated into the 123' WPB). Maintain electronic version of the MICA-like data, which is available to the cutters and their support networks through the Logistics Information Management System (LIMS), a new Deepwater tool that will bring functionality similar to CMplus.
- **Integrated Product Teams (IPT)** - Work primarily within the IPT structure, assisting team members with logistics (Supply Chain Management, Maintenance & Modernization, etc.) issues. Ensure continuous positive and open communications between team members while assisting and resolving project related concerns.

These are just a few examples where the Boat Management Team is making significant contributions and representing the interests of the "Deck Plate" Sailor and the CG Naval Engineering Community.

ELC's Deepwater Division, Cutter Management Team

by Alan Haddaway

ELC's Deepwater Division Cutter Management Team would like to introduce you to our team members and the role we play in the program. The Cutter Team is responsible for providing the Deepwater Program with engineering and logistics support for the WMSL (National Security Cutter), WMSM (Offshore Patrol Cutter) and the WPC (Fast Response Cutter). In providing this support we "reach back" into the Command to its 500+ people to secure the services of its subject matter experts in a variety of subjects including: engineering design review, provisioning, Navy Type Navy Owned Ordnance/Electronics and outfitting new ships, just to name a few. The Cutter Team is in daily contact with industry partners Northrop Grumman and Lockheed Martin to collaborate on the many issues associated with designing and building new ships for the U.S. Coast Guard.

The Cutter Team is collocated with both the Integrated Logistics Support (ILS) and Boat Teams and communicates daily to discuss planning efforts and resolve logistics issues between the system level and asset level across the program. Additionally, we participate in weekly meetings with the ELC engineering team (Naval Architecture, Propulsion Systems, Auxiliary Machinery, Electrical Systems) members, helping the program to ensure logistics is integrated into the new cutter designs. Team personnel reside on Integrated Product Teams and functional Working Groups providing Coast Guard insight, experience and subject matter expertise to the contractor. In addition, we play a key role in the collaborative development, review and execution of functional requirements for the Integrated Support Plan, Cutter Maintenance and Modernization Plan, Government Furnished Equipment Support Plan, Training Plan, and all the other elements of logistics needed to support the Deepwater Cutters.

LCDR George Lesher (410) 762-6107
Deputy Office Chief/Team Leader/WMSL Platform Eng & Logistics Manager

LT Chris Webb (410) 762-6113
WMSM, Platform Eng & Logistics Manager

CWO Guy Towler (410) 762-6109
WMSM, Type Support Manager, Logistics Manager

CWO Frank Washington (410) 762-6039
WMSL, Type Support Manager, Logistics Manager

Depiction of new National Security Cutter (WMSL).

We would like to share several examples where our Cutter Management Team is contributing to the program.

- **Government Furnished Equipment/Information (GFE/GFI)** - Ensuring that all elements of logistics are being addressed and delivered to the contractor. Working closely with other Government agencies so equipment can be delivered to the contractor on schedule.

- **Maintenance & Modernization** - Identified a lack of condition based maintenance. Addressing this issue by working with the contractor to incorporate sensors into the design. Collaboratively ensuring the WMSL maintenance plan is the most productive and cost effective that it can be. Working to ensure the "Deck Plate" Sailor has a seamless maintenance process in place.

- **Damage Control** - Identified design shortfalls for damage control automation. Developed a business case analysis to incorporate this capability into the design. Savings from this initiative over the life cycle of the asset are potentially in the millions.

- **Outfitting and Provisioning** - Working closely with Integrated Coast Guard Systems (ICGS) to ensure a good process is in place. Collaboratively reviewing all data such as the damage control locker gear and Chemical, Biological, Radiological Detection equipment lists.

Parts Ain't Just Parts!

by Clayton W. Davis

By the time the reader gets to this article, you should be well aware that a major portion of the ELC's business is to supply Hull, Mechanical and Electrical (HM&E) and electronic system spare parts to the operational fleet and to shore stations. Sounds simple: Parts is just parts, right? Perhaps the following information will help you understand challenges that the supply support community faces.

The ELC is part of the Federal Supply System. We stock, store and issue about 21,000 separate line items of supply in what we call the "wholesale" inventory for cutter and shore station support. (Our "retail" inventory, which supports CG YARD activities, is discussed elsewhere.) In general, the wholesale items we manage are unique to the Coast Guard, meaning that no other Federal agency has a need for them. For example, ELC does not stock the National Ensign, whereas we do stock the #4 CG Ensign. If another agency develops a need for one of our items, item management is transferred away from us to them. ELC does dual-manage some items, for example where an Other Government Agency (OGA) does not support CG demand, for whatever reason.

ELC stocks a wide variety of items, from the CG Commendation Medal to a propulsion gas turbine for the 378' WHECs (High Endurance Cutter). Accompanying articles describe the variety of items we stock in some detail.

Because most of the items we manage are CG-unique and are installed in aging and obsolete equipment and systems, we must procure hard-to-obtain parts with limited sources of supply or which require special manufacturing runs.

On average, the ELC supplies about 15% of the CG fleet's Federal Supply System needs for materials. The remaining 85% of your needs are supplied by someone else, i.e., by OGA or by local purchase. The ELC plays no part whatsoever in CG-initiated requisitions that are filled by OGA. Although we do occasionally make mistakes, ELC often takes the rap for faulty parts that actually came from some other source of supply, not from us.

(To give OGAs a "heads up" on what level of support the CG will require for items stocked by OGAs, ELC submits Supply Support Requests (SSRs) to them. If we fail to do this, you may not receive good support from them. Conversely, if an OGA comes back to us and says they cannot, or will not stock, the amount we have requested, we may make a decision to dual stock the item. If you are not receiving appropriate support from an OGA on an item of supply, advise ELC's Customer Service with the stock number in question, and we will investigate stocking that item ourselves.)

The ELC fills about 35,000 requisitions a year from the wholesale inventory, and of course one requisition can be for dozens or hundreds of an item. It would be very costly (to the taxpayer) if we were to stock our shelves in such quantities that we could fill every single requisition immediately. Accordingly, our funding is based on filling 90 percent of incoming requisitions right away, and our actual performance hovers around that level, within two or three percent (see graph). The other 10 percent of requisitions are backordered, and we work hard to clear each backorder as soon as possible.

An item of supply falls into one of two categories: it's either a consumable or a reparable. Once a consumable is shipped from the ELC, we hope never to see it again.

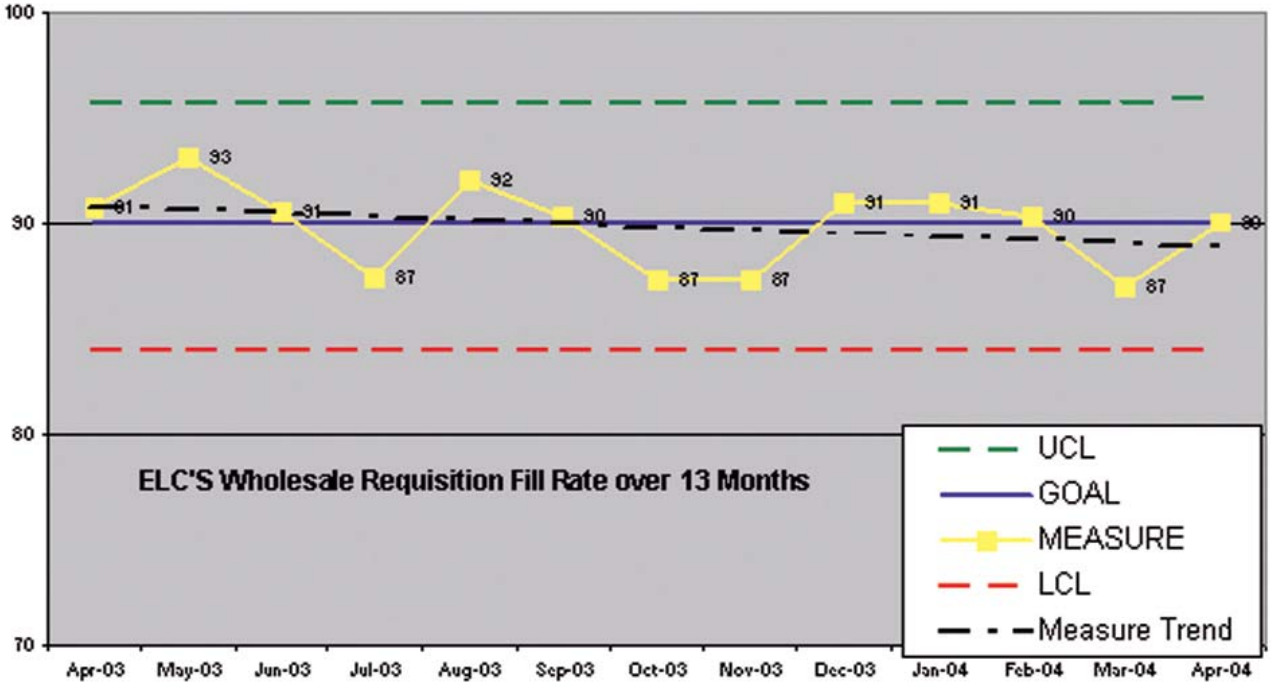
However, that does not mean that a consumable item cannot be repaired by the unit or at an intermediate level; it may be and often is. It just means that ELC has determined that it is not cost effective to make consumable items part of a depot-level Mandatory Turn-In (MTI) program, which is how ELC manages reparables.

Reparables are normally high dollar value items that can cost-effectively be made part of a depot-level MTI program. However, it is important to point out here that the term "reparable" is a misleading misnomer. ELC does not just repair a reparable "F" condition asset after it is returned to us. A reparable item is completely overhauled and returned to "A" condition, ready-for-issue (RFI), like new, before being put back on our shelves. If you place an MTI "A" condition item that has been overhauled, next to a brand new identical item just delivered from the factory, you should not be able to tell the difference. (There are exceptions; for example, the cases of hand-held radios are not replaced just for cosmetic purposes.) An MTI item has been returned to Original Equipment Manufacturer (OEM) clearances and specifications, and should perform same as when new. In fact, many MTI assets are overhauled by the OEM. Obviously, the cost to completely overhaul an MTI asset (for example, a 110' WPB (Patrol Boat) Paxman propulsion diesel engine) substantially exceeds the cost to merely repair it. ELC fully disassembles the engine, down to parade rest, and all parts are inspected and replaced as necessary to return the engine to zero hours, with warranty. The price we charge for the engine is the average overhaul cost during the preceding year with a small inflation factor.

The Sum of: the number of a certain MTI item installed in the fleet/field, the number of "A" and "F" assets of that item on our shelves, "F" assets due-in from you the field, and assets at a contractor being overhauled, is what we call the "pipeline" for that item. Again, because many of our reparable items are unique and out-of-production, our pipelines are often severely constrained. If you don't promptly return your "F" assets to us, then we can't ship them out for overhaul and get them back in time to fill your next requisition. The ELC has recently instituted a number of improvements in our processes to make the MTI program work faster and easier for you. You are a critical part of the MTI process, and we encourage you to return item carcasses as soon as possible. ELC's Customer Service can assist you in that regard.

Part of our Mission Statement is to deliver the "right" part, meaning, it is the correct fit, form and function for the application, and that the item possesses quality in terms of appropriate materials of construction and good workmanship. Our Quality Assurance (QA) shop (see separate article) visits many contractor facilities to inspect the First Article of production for conformance to our specifications and to witness acceptance tests. Nevertheless, despite our best efforts, non-conforming or defective products sometimes arrive at our warehouse, and you suffer as a result. Reports of Discrepancies (RODs) and Quality Deficiency Reports (QDRs) are your tools to report supply support problems to us, so that we can immediately resolve your issue, stop shipping the item, and then thoroughly investigate and repair the root cause of the problem. The ELC cannot correct failures that we don't know about, so we strongly urge you to take the time to report supply problems to us, and of course, to other sources of supply (OGA) as well. We closely track RODs and QDRs and constantly work to minimize the number of them.

We take our supply support business seriously. We fully realize how important that business is to you. ST



ELC's Business Management Computer System - The Naval and Electronics Supply Support System (NESSS)

by Melvin Chavis

Residing on a Hewlard Packard platform at the Operations Systems Center (OSC) in Martinsburg, West Virginia, is the Naval and Electronics Supply Support System, better known as NESSS. This web-based application written in Oracle VIII was recently converted from character mode environment to web functionality and offers more opportunities for web initiatives. This system provides inventory, logistical and financial support to personnel located at the ELC and the Coast Guard Yard in Curtis Bay, Maryland. NESSS is broken down into six subsystems; Fleet Logistics System (FLS) Main, Supply, Finance, Procurement, Depot and Provisioning/Cataloging.

FLS Main: This is the system administration module that establishes user access and control within the system. It interfaces with the Defense Logistic Information System (DLIS) for maintenance of all Coast Guard addresses, and issue and receipt of all Military Standard (MILSTRIP, MILSTRAP and MILBILLS) transactions, e.g., requisitions, follow-up, status etc.

Supply: This module tracks all aspects of inventory management for Operating Materials and Supplies (OM&S); Plant, Property and Equipment (PPE); and inventory. There are three types of materials managed within the system; wholesale, retail and temporary storage. There are modules contained within the system that control the management of material, issues, physical inventory, replenishment and tracking. The subsystem also contains warehouse management functions from configuration of the warehouse; location maintenance; pick, pack and ship; receiving and receipting processes. It interfaces with both the Procurement and Finance subsystems.

Finance: The Finance modules perform accounts payable, disbursement, accounts receivable, funds maintenance, United States Standard General Ledger (USSGL) maintenance and miscellaneous obligation posting. This subsystem has matrices for transaction posting that allows the System Administrator the flexibility to maintain General Ledger (GL) posting. It has a transaction audit module that allows users to query and view all transactions posted to a specified query.

All events with a financial impact, record in the Finance subsystem. These events occur in real time and include events such as obligations issued in the Procurement subsystem and receipts posted in the Supply subsystem. In addition, Defense Automatic Addressing System (DAAS) traffic is brought into NESSS to record MILSTRIP requests for inventory items stocked at the ELC.

The Finance modules are used to manage the funds allotted to the ELC, as well as to generate financial reports. Modules include Accounts Payable and Receivable and modules also display financial data, generate reports and audit events with financial impact.

As a part of the general NESSS functionality, the system allows users with special privileges to add General Ledger accounts as required, and to update the posting logic via a series of matrices to meet with new/revised reporting requirements.

Procurement: The creation of purchase requests, replenishment of material, establishment of solicitations, annual procurement planning and creation of obligation documents from purchase orders such as Blanket Purchase Agreements (BPAs), are all done in the Procurement module.

Depot: The Depot Maintenance module allows users to create and maintain data unique to the CG Yard Depot subsystem. All programs, projects and Job order information is maintained in this subsystem.

Catalog/Provisioning: This module tracks all aspects of Allowance Parts List (APL) provisioning both Hull, Mechanical and Electrical (HM&E) and ELEX items for new Coast Guard acquisitions and for the existing coast guard fleet. Management Information for Configuration and Allowance (MICA) books are developed and printed within this application for use by afloat and ashore units. The creation of Activity Control Numbers and maintenance of ELC managed National Stock Numbers are also performed within the modules.

Xventory is a software package that was developed for use by contractors who are awarded Coast Guard acquisition projects. Presently, the Great Lake Ice Breaker (GLIB) contractor is using this software package to input and monitor provisioning documentation for this multi-million dollar project. This application interfaces with the existing NESSS system and utilizes the existing database.

PROVISIONING

by Walter Buschmann

Provisioning is the process of determining and acquiring the material necessary to support and maintain a system or equipment for all levels of maintenance for a defined period of service.

At the ELC, provisioning is accomplished for all Hull, Mechanical, Electrical, and Electronic systems and equipment that have been designated to require Supply Support, including the development of Allowance Parts Lists (APLs) as well as maintaining over 34,000 active APLs already in the system. There are 27 provisioners in four Branches of the Equipment Management Division that include Propulsion, Auxiliary, Electrical and Electronics. Provisioners are part of the integrated equipment teams and work with the engineers and inventory managers as required to accomplish the provisioning process.

The Provisioner's task is to determine what spare parts are to be stocked at the ELC and what repair parts are authorized to be carried on board. The decision-making process that determines the range of parts to go on board includes determining what levels of maintenance are appropriate for a given equipment and unit. In other words, what organizational level, e.g., ship's crew, shipyard, boat station or group, etc., is capable of maintaining and repairing this equipment, and how far should they delve into it? Much of the information needed to make these decisions is provided during Provisioning Conferences and contained in the maintenance plans.

In creating an APL, the Provisioner relies heavily on Provisioning Technical Documentation (PTD). PTD is the generic term used for the various types of provisioning data provided by a manufacturer, contractor or other Government agency. PTD is the information needed to repair, support or replace an item through its life cycle.

For new acquisitions, PTD is supplied by the manufacturer or shipbuilder, while for Engineering Changes PTD is normally researched and created by the Provisioners themselves.

Applicable PTD consists of Engineering Data For Provisioning (EDFP), Commercial Item Descriptions (CID) and various Data Product Deliverables including:

(a) Provisioning Parts List (PPL)
(b) Long Lead Time Items List (LLTIL)
(c) Repairable Items List (RIL)
(d) Interim Support Items List (ISIL)
(e) Tools and Test Equipment List (TTEL)
(f) Common and Bulk Items List (CBIL)
(g) Design Change Notices (DCN)
(h) Post Conference List (PCL)
(i) System Configuration Provisioning List (SCPL)
(j) Ship Level Provisioning Parts List (SLPPL)

The level of detail for the PTD will depend on whether the system or equipment has parts subject to wear-out, failure or replacement which require maintenance at the organizational, intermediate or depot level. At minimum, it establishes a configuration record for the system or equipment, i.e., it identifies the end item only, and says, "they have a particular number on board."

The allowance document (e.g., MICA document) the Provisioners eventually produce through this PTD delineates the item's support throughout its life cycle.

Once the APL is completed, ELC develops a list of spares to be stocked at the ELC and repair parts to be carried on board, and requests either the acquisition program or sponsoring activity provide the initial shelf stock and On Board Repair Parts (OBRP). In instances where funding is not available to provide all required material, the ELC will budget for supply stock to make up the shortfall, and the fleet (MLCs) will budget for the missing OBRP.

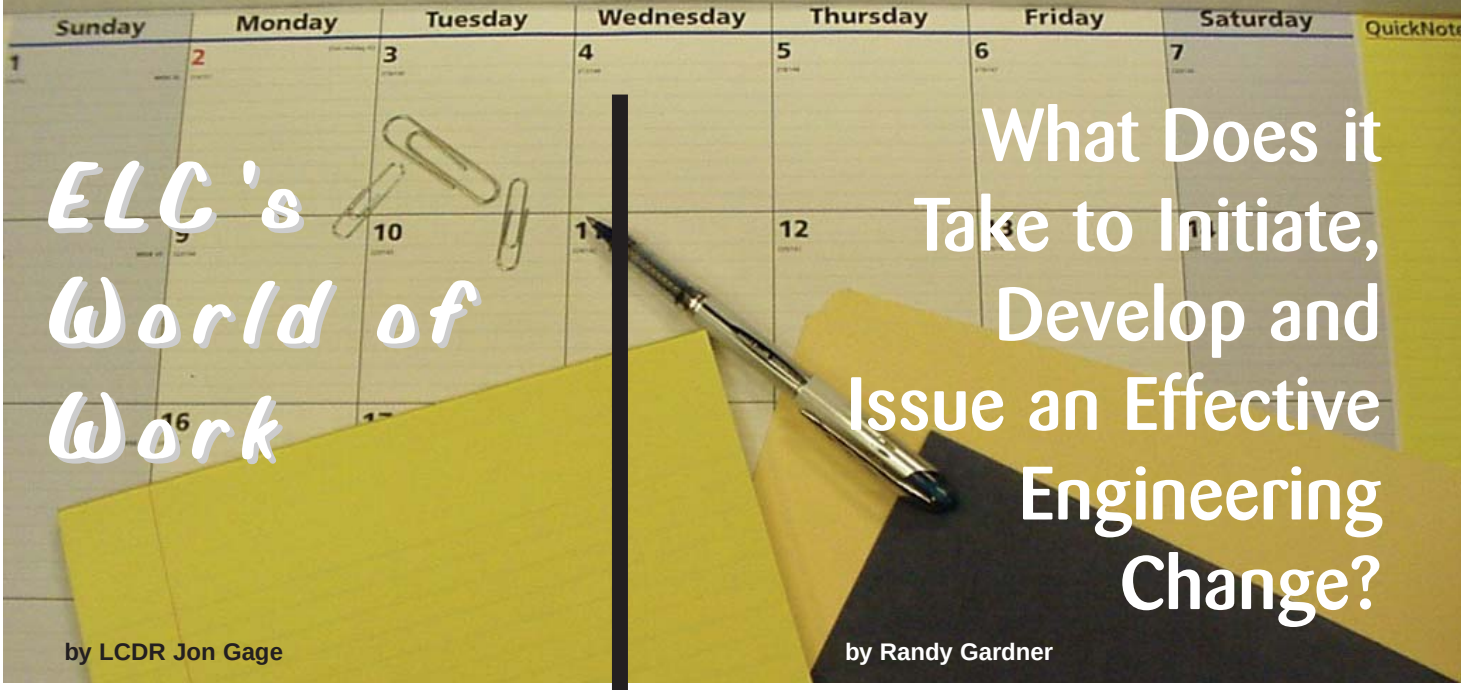
The ELC's Top Ten Things to Remember When Requisitioning Stock from ELC

by CWO4 (F&S) Terry Manning

Good morning to all our listeners out there in Coast Guard land and welcome to the WELC morning show with your host, Ima Req. Let's take a check on the time. For all the Federal workers out there it's 7:30 AM, for all the Military Officers and Enlisted personnel it's 0730, and for all the Ensigns, the big hand is on the … all right, we won't go there. Speaking of time, it's time to take a look to see how Tinsel Town fared at the box office this weekend. If you're like me, you probably don't have a clue as to what some of these movies are about, so let me fill you in on the WELC's Top Ten list from the Silver Screen. Oh, by the way, the Top Ten list is brought to you today by the good folks in the ELC's 021 Electronic Systems Branch. Here we go …

At **Number 10: DIAL "H" FOR HELP** - A short documentary film about how Coast Guard units, like the ones on the remote islands off the coast of Maine, can call the ELC's Customer Service for assistance if they have a question. Detailed research shows that ELC's Customer Service can be reached at (410) 762-6800 or 1-800-336-7430 and they man the phones from 0600 to 1900 EST. If you're unsure on how to submit requisitions, get status, process a ROD/QDR, etc., give them a call and they will show you that you can get there from here.	10. Call Customer Service for help if you are in doubt about what to do - (410) 762-6800
Coming in at **Number 9: A BEAUTIFUL GRIND** - The inspiring tale of a Coastie who drives himself to the edge of insanity by working incessantly to figure out how the ELC functions. In a shining moment of introspection, he realizes that by combining his knowledge of the Supply Policy and Procedures Manual (SPPM), with the information from the ELC's website (http://cgweb.elcbalt.uscg.mil/), he can understand the complex world of Mandatory Turn-Ins, Requisitioning, RODs and QDRs, MICA and the ever changing Elex Support Gram.	9. Become familiar with ELC's procedures, MTI Program and ROD/QDR Procedures.
Moving up from Number 12 to **Number 8: THE MAN FROM A.C.C.U.R.A.C.Y** - A spy thriller about a Coast Guardsman who kept getting the wrong items because he didn't check over his requisitions before he sent them. Capturing documents from the supposed enemy (no, the ELC is not the enemy), he quickly deduced that taking time to ensure that requisitions are correct before they're sent could save him time and his command money. ACCURACY = Mission Accomplished.	8. Ensure requisitions are accurate before you transmit or fax them. Accuracy = mission accomplished!
In the **Number 7 Spot: DRAGGED NET: JUST THE FAX** - Based on the popular TV series, this crime drama will keep you glued to your seat and asking the question ... did my Fax go through? Using skills honed from years of service, the salty Chief knows that you need to follow up on all the leads. Ensuring that the ELC gets the fax straight is of supreme importance and covering your back trail by calling Customer Service to check is solid logistics work.	7. Initiate follow-up for faxed requisitions.
Falling to **Number 6: DUDE, WHERE'S MY PART?** If you've ever tried to put together a child's toy on Christmas Eve without instructions, then you can relate to the comical antics of the men and women of a Coast Guard Unit who thought they knew how to order stock from the ELC without reading the manuals. Which to use? CMplus, FLS, MILSTRIP Message or Fax, the choices rain chaos and confusion. If they had only checked out the Supply Policy and Procedures Manual (SPPM) and the ELC's instructions on their Intranet website (http://cgweb.elcbalt.uscg.mil/), this scenario would be no laughing matter.	6. Determine the proper method to submit your requisition (CMplus, FLS, Message or Message/Fax).

Holding at **Number 5: THE REQUISITIONER ALWAYS CHECKS TWICE** - Just when you thought you had it made. When you thought you knew what was ordered. When you thought you had the estimated delivery date. Guess again. Things aren't always, as they seem. Maybe it's time to check on the status of that CASREP requisition you submitted two weeks ago before the ship gets underway, because ... maybe it isn't there!!!! This dark thriller reminds you that you should always check the status of a CASREP requisition within 48 hours and all other requisitions within ten (10) working days. If you don't receive status, call the ELC's Customer Service for assistance at (410) 762-6800 or 1-800-336-7430.	5. Check status of high priority and CASREP requisitions within 48 hours. All other requisitions within ten (10) working days.
New at **Number 4: DR. HECKLED AND MYSTIFIED: THE ROD/QDR MURDERS** - A disturbing tale of mistaken identity where RODs are submitted for QDRs, QDRs submitted for RODs, and the consequences are killing support. The Inspector from Scotland Yard knew that RODs are for the receipt of incorrect items, quantities, shelf-life issues and poor packaging, while QDRs are for items that do not meet form, fit or function of the mission that they were intended for. Together with the fact that the ELC used these documents to identify problems with repairs, purchases, packaging and shipping problems, he quickly deduced that the mysterious nature of these documents could be made clear with knowledge of section 5-N of the Supply Policy and Procedures Manual (SPPM) and the hassle of tracking RODs/QDRs lessened by checking status on the ELC's Intranet website (http://cgweb.elcbalt.uscg.mil/).	4. The ELC uses RODs and QDRs to identify quality, requisitioning, packing and shipping problems.
Dropping two spots from the Number 1 position to **Number Three: WE KNOW WHAT YOU REQUISITIONED LAST SUMMER** - An intense psycho-thriller of a large, Baltimore Inventory Control Point that knows not only what you ordered last summer but for all the summers since 1996. You will be on the edge of your seat, as Customer Service personnel search frantically through thousands of requisitions and transactions to find the one order you need information on. The ironic twist is that all this could have been prevented if the caller had the Document Number and Stock Number ready when the call was made. Don't you make the same mistake!	3. When you call about a requisition have the Document Number and Stock Number ready.
Grabbing the **Number Two** spot on its opening weekend: **SOUTH SPECIFIC** - The smash Broadway Musical brought to the big screen with an inspiring tale of a young Coast Guardsman and an Army Nurse thrown together in the grips of a war on a South Seas Island. They meet, but unfortunately never get together again because they forgot to get each other's names or the office where they worked. If you talk to someone in the ELC about an issue, please remember to get their name and the office where they work. That way, if a question comes up later or you're referencing the conversation, you'll have a name to help us help you.	2. When you talk to someone at the ELC, get his or her name and office where they work.
And our **Number 1** for an unprecedented 450 plus weeks in a row: **I CAN'T GITMO SATISFACTION** - Recounting the exploits of the famed group, this hard driving Rock n Roll tale will leave you with the following message pounding in your brain … **A CASREP MESSAGE DOES NOT ORDER THE ITEM!** A SEPARATE, NARRATIVE MILSTRIP MESSAGE MUST BE SUBMITTED TO PLACE AN ORDER. A CASREP MESSAGE DOES NOT ORDER THE ITEM! A SEPARATE, NARRATIVE MILSTRIP MESSAGE MUST BE SUBMITTED TO PLACE AN ORDER. A CASREP MESSAGE DOES NOT ORDER THE ITEM! A SEPARATE, NARRATIVE MILSTRIP MESSAGE MUST BE SUBMITTED TO PLACE AN ORDER.	1. A CASREP Message does not order the item! A separate, narrative MILSTRIP Message must be submitted to place an order.



ELC's World of Work

by LCDR Jon Gage

In days gone by, the bulk of Operating Expense (OE) funding for the Naval Engineering community was infused into the Coast Guard through a Planned Obligation Proposal (POP) process that typically funded the best-supported projects, irrespective of fleet need or operational impacts.

In efforts to level the AFC-45 (Allotment Fund Control Code) playing field, and to capitalize on commonly used systems (reducing the number of required Logistical tails) a new system was developed by the Naval Engineering Maintenance and Logistics Natural Working Group (NEMLWG). This system provides a Coast Guard-wide listing of all approved Engineering Change Request (ECR) projects with each project being scored on the merits that best describe the "Best Bang for the Coast Guard Buck." This prioritized fleet listing is commonly referred to as the "World of Work" or WOW.

Once scored, each project is then Rank Ordered and takes its position on the "World of Work" list. A detailed Project Plan is created and all costs estimated to develop, install and support the solution. When Fiscal Year funding is made available to the ELC, the funding is applied by priority, down the WOW list, to as many projects as the funding will support. Once a project is funded it remains funded until completely installed.

The WOW listing provides that the projects of greatest benefit receive funding first, with residuals being made available to the next sequential project on the scored list. In many respects, the WOW has eliminated the competitive re-shuffle of projects throughout the year or year-to-year.

For more information on the World of Work process, please see amplifying information in the next Engineering Change article.

What Does it Take to Initiate, Develop and Issue an Effective Engineering Change?

by Randy Gardner

The ELC is responsible for coordinating the Engineering Change (EC) development process, which is cited in Chapter 041 of the Naval Engineering Manual (COMDTINST M9000.6 series) and Chapter 5, Section 5.2.7 of the Electronics Manual (COMDTINST M10550.25 series). The EC process supports Configuration Control and is critical to life cycle support of any Coast Guard asset.

Logistics and Engineering elements are critical to the development of an EC, but before the ELC can proceed, we must first receive an approved Engineering Change Request (ECR) (CG5682) with a detailed explanation in the following blocks of the ECR:

- Background/purpose
- Impact on cutter/Boat Mission Characteristics/Capabilities (if any)
- Attachments/References

Although a courtesy copy to the ELC is listed on the CG-5682 Form, all ECRs should be routed through the chain of command. We will typically not enter them into the DARTS (Database Alteration Record Tracking System) database until we have received an endorsement from the MLC or Systems Management and Engineering Facility (SMEF). Once the endorsed ECR is received at the ELC, it is reviewed and classified as either a System or Platform Engineering Change.

ECRs that are received with identified funding will be processed and developed into an authorized EC.

Those ECRs that have no funding identified will compete annually through the Naval Engineering World of Work (WOW) process. When reviewed on the DARTS database, the project status will show up as "Hold Pending Funding." Figure 1 on the following page outlines the

WoW funding process; also see preceding article.
Once funded, the ELC begins development of the EC. An EC that has received funding will remain on the World of Work until the change is fully implemented. The target completion for funded EC is one drydock cycle or four years. This process is only used for the Hull, Mechanical and Electrical systems on Coast Guard cutters. A similar process is used in the small boat community, while the electronic community identifies funding for their system recapitalizations.

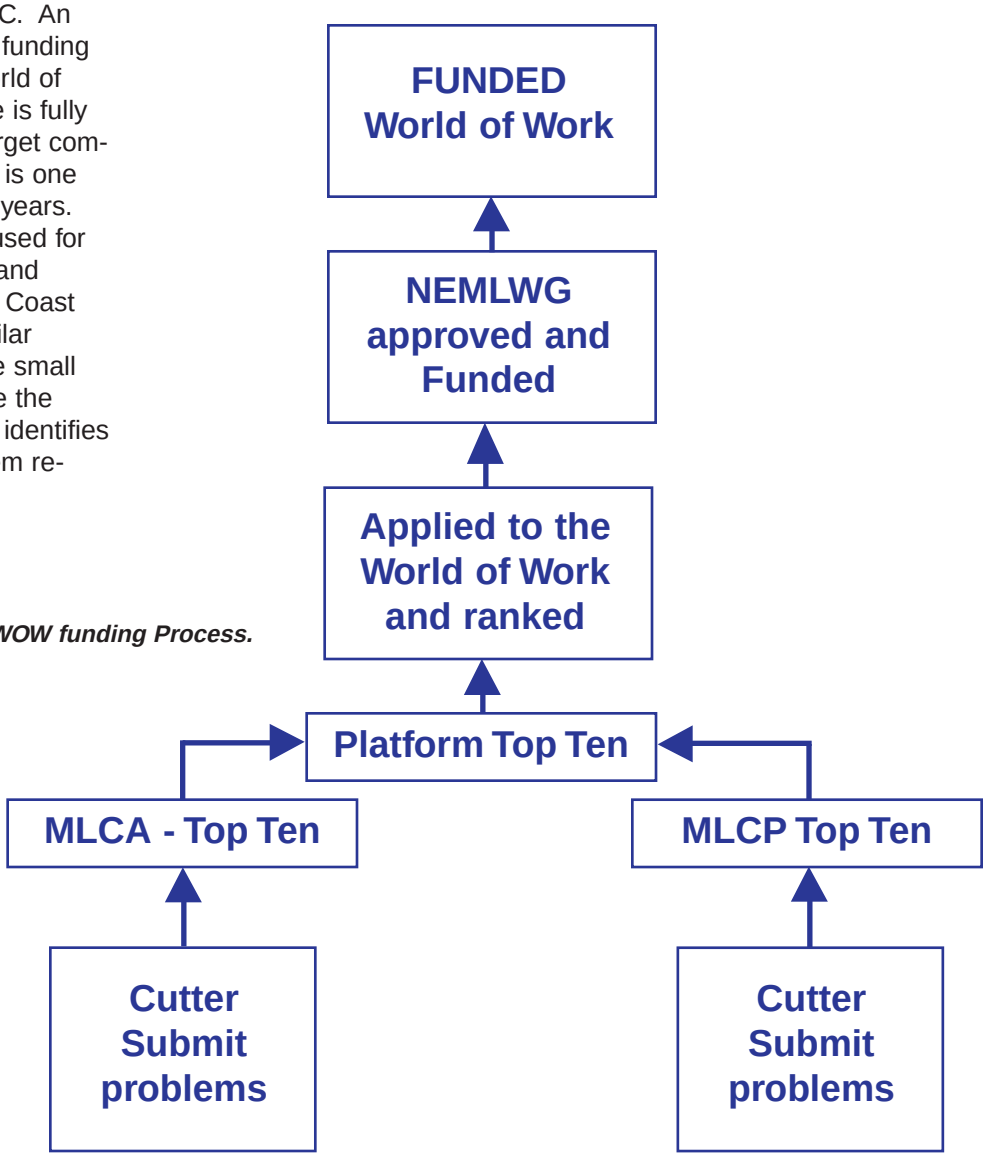


Figure 1. WOW funding Process.

This process uses seven factors to rank order all non-funded ECRs, to arrange them in a prioritized fashion.

WOW Scoring Factors
System Commonality
SSL and Hulls Effected
Field/System Need
Risk of Complacency
Program/Capability Need
Risk of Implementation
Mission Criticality

These factors are used to rank each Top Ten ECR for each class into one master World of Work list. The ECRs that make it to the master World of Work compete for funding annually through the Naval Engineering Maintenance and Logistics Working Group (NEMLWG).

The NEMLWG reviews the requests and applies funding -- going down the list from the top. If the scoring was accurate, those ECRs which have the best value and the highest return to the Coast Guard fleet are funded first. Funding does not always cover the entire World of Work list of ECRs; therefore, units should work closely with their MLC Type Desks to ensure their highest priorities are addressed.

ELC's Engineering Personnel Resources

by Robert Kalmus

Question, what is 32.3 years? Answer, the average number of years of marine-related experience of an engineer at the ELC. Some ELC resource statistics based on a survey of 38 engineers are as follows:

EDUCATION		LICENSES	
Bachelors	38	Professional Engineer	3
Masters	6	Engineer-in-Training	4
PhD	1	Merchant Marine Licenses	6

EXPERIENCE (years)	
Private Marine	310
Coast Guard (civ)	525
Shipyard	113
Navy (civ)	134
ABS	19
Military	119

While most Degrees are in the Naval Architecture, Electrical Engineering and Mechanical Engineer fields, ELC engineers also hold degrees in Oceanography, Civil Engineering, Chemistry and Physics. Masters degrees are in Naval Architecture, Mechanical Engineering, Engineering Science, Environmental Engineering and one in Education. Of the six Merchant Marine Licenses, one is for Chief Engineer of Steam and Motor Vessels of any horsepower.

ELC engineers actively participate in several professional organizations to create and review industry standards for maritime applications. Some of these societies are: ASNE, ASME, ANSI and SNAME. ELC engineers also represent the United States on several NATO and IMO committees.

In addition to the normal work of acquisition and fleet support as outlined in various Branch articles, ELC engineers are also involved in many special projects that will help provide a safer and more efficient fleet for the Coast Guard. Some of the special projects underway are:

BOAT HULL MODEL TESTING: The 47' MLB is a modern hull form and has excellent speed/power characteristics as well as excellent sea keeping. The ELC is performing a model test series to determine if the 47' MLB hull parameters can be successful in producing larger boats with different proportions. Ms. Dina Kowalyshyn of the Boat Engineering Branch is heading this project and has developed the hull forms for four models to be tested. The tests will vary the length/beam/depth characteristics of the 47' MLB for boats up to 100' in length. The model test results will be used to fine tune computer prediction methods, since it is more representative of current designs than old test data from the 50's and 60's that is currently used in these methods. With today's emphasis on Homeland Security this information will be invaluable for the design and construction of boats to protect ports, harbors and the coastline of our country, not only for the Coast Guard, but for other agencies.

ICE TRIALS: In response to operator concerns, the Naval Architecture Branch is modifying the GLIB ice trials so that they will not only verify the operation of the cutter in accordance with the Performance Specification, but will also provide the operators with guidance. Because GLIB is the first USCGC icebreaker to have azimuthing propulsors (and the first in North America), the Branch has brought in experts from other countries that have used this type of propulsion system on icebreakers to help write the testing and measurement requirements. It is intended that the ELC will meet with the operators to obtain their input for the testing and to ensure the resulting data is transformed into operator useable information, e.g., turning circles in ice, icebreaking capability versus ice thickness and most effective use of the podded propulsors to execute icebreaking maneuvers.

PROPULSION SYSTEMS: To keep up with current technology in the propulsion field, ELC engineers participate in several industry organizations that promote propulsion standards and share information. Mr. Kevin Danahy serves on the SNAME vibration panel, which has recently reviewed an ELC vibration standard, written by Mr. Danahy, and adopted it as the industry standard. The standard is also being proposed by SNAME for use as the ISO standard for shipboard vibration. SNAME panel M16, which also has representation from the ELC, is developing a shaft alignment guide based on the work done by the ELC. This guide will shortly be published as the industry standard. The guide was originally written in response to Maintenance and Logistics Command (MLC) requests for standards to use for shaft alignment.

CPP SYSTEMS: To solve leakage problems on the 210' WMEC hubs that the industry was unable to fix, the ELC has built a 210' WMEC hub test stand and is experimenting with system and seal changes to reduce leakage as much as possible and thus extend the life of the CPP system. The alternative would be to purchase a completely new CPP system which would not be cost effective for this older class of cutters.

Stern Boat Deployment Systems and Operability Criteria

by Thomas Beukema

The ability to launch and retrieve small boats is essential to the successful operation of many of the U.S. Coast Guard's seagoing missions. The ability to safely and quickly launch and recover boats in a broad range of environmental conditions is critical. In recent years, boat deployment systems have evolved beyond the traditional side-davit system with dual falls, to include systems that deploy Rigid Hull Inflatable Boats (RHIB) via stern ramps that are designed integrally into the transom of the mother ship.

In the mid-1990s, the Coast Guard had an interest in developing stern boat deployment systems, and the Deepwater Project is considering design ideas for replacement cutters that included the use of stern launch and recovery systems. As part of the Coast Guard's need to conduct technical assessments of the proposed ship designs, engineering criteria and methodology needed to be available.

The Naval Architecture Branch undertook the initiative to develop criteria for design and evaluation of stern launch and recovery systems for small boats from ships up to 400 feet. To this end, a systematic approach was undertaken to conduct a worldwide assessment of vessels with stern-launch capability, develop boat deployment criteria and analysis methodologies, conduct stern boat deployment operational tests and perform Percent Time Operability (PTO) analyses.

The purpose of the worldwide search of candidate vessels operating with stern deployment systems was to determine their design criteria and to determine their operating characteristics. It should be noted that all the vessels surveyed for stern deployment capability also had an alternative, traditional boat launch system available.

The result of this investigation confirmed that no established analytical approach had been developed for use in the design stage, nor was a standard or criteria set available to the designers of these vessels.

As a result, a dedicated effort was undertaken to review existing system evaluation approaches, conduct ship motions studies and generally draw together diverse viewpoints of other investigators into a workable design and evaluation methodology for stern-ramp cutters. The developed approach would have to be applicable to stern deployment of RHIBs and other small boats from various sizes of cutters, would allow comparison to side-boat deployment systems, and would have to be relatively easy to employ given the analysis tools in existence today.

The investigations have shown that the form of a stern ramp can be optimized to achieve a higher level of operability for a given sea condition. The parameters of the stern ramp, designed for operation in a Sea State 5 or higher, must be carefully selected and depend upon magnitude of the wave-induced motion characteristics of the mother ship and deployed boat. The effort undertaken led to the development of three sets of design criteria for the evaluation of stern-ramp boat deployment. The first addressed mother ship motions for stern-ramp operations and was adapted from similar side-davit motion criteria. The second was a ramp availability criterion that quantifies the effectiveness of sill depth at the stern ramp. Finally, a collection of stern-ramp deployed boat criteria was proposed. The latter have been translated into motion responses at the stern ramp of the mother ship in order to facilitate evaluation and comparison of different mother ship hull designs.

More model tests, full-scale test measurements and theoretical studies are still required to complete the development of stern ramp design and for evaluation criteria to predict the operational performance of the stern deployment system in a seaway. Optimal performance of a stern ramp system depends heavily upon the configuration of the stern ramp. Design features such as the width of the stern ramp well compared to the beam of the boat, the ramp incline angle, the entrance shape to the ramp, and water control features for seawater exiting the ramp area after washing into the stern ramp all require further investigation.

The Naval Architecture Branch is in the process of developing the detailed design criteria to evaluate stern launch and recovery systems.

ELC Contributes to the Great Lakes Icebreaker Program

by Christopher Cleary

GLIB Outboard Profile.

The U.S. Coast Guard Great Lakes Icebreaking (GLIB) Capability Replacement Project is a major acquisition program chartered to maintain heavy icebreaking on the Great Lakes. This state-of-the-art icebreaker will replace the USCGC MACKINAW (WAGB 83), which has provided 60 years of continuous service to the region. The new multi-purpose vessel will provide heavy icebreaking services and maintain floating aids-to-navigation on the Great Lakes. In addition, the vessel will have secondary mission objectives for search and rescue, marine environmental response and maritime law enforcement.

GLIB module under construction.

The ELC has played an important role since the program's inception. The ELC's contributions during contract development helped shape the program's direction, and our continuing support throughout design, construction and testing will ensure the delivery of a technically advanced and effective vessel.

The present Coast Guard Cutter MACKINAW is the only U.S. heavy icebreaking resource assigned to the Great Lakes. When commissioned in 1944, the vessel was the industry's largest and most powerful icebreaker. However, after nearly six decades of service, MACKINAW has become increasingly costly to support. MACKINAW is scheduled to be decommissioned in 2006. To maintain the extensive traditions of service in the Great Lakes, the new vessel will continue to carry the name "MACKINAW."

The Coast Guard awarded the $82.5M GLIB construction contract to Marinette Marine Corporation on 15 October 2001. GLIB construction began on 6 June 2003 at Marinette Shipyard in Marinette, Wisconsin, with delivery scheduled for October 2005.

The ELC has played a significant role both in contract award and design of the GLIB. The success of this project is due in large part to the strong partnership that was formed very early in the project with the Project Manager, Project Sponsor, the Project Resident Office (PRO), the ELC and later with the ship builder, Marinette Marine Corporation. The foundation of this partnership was mutual respect for the roles, responsibilities and capabilities of each organization.

Prior to contract award, the ELC performed an examination of 11 alternatives for maintaining heavy icebreaking capability on the Great Lakes, which identified the multi-mission icebreaker as the best alternative. Additionally, the Naval Architecture Branch conducted both open water and ice basin model tests to validate that the per-

formance provided by the multi-mission icebreaker concept would be the best solution for replacing MACKINAW.

The ELC played a key role in the development of the Performance Specification, and was responsible for developing the Design and Construction Standards and a "Point Design" that validated that the requirements were feasible and affordable. ELC personnel also played a significant role in source selection for the design and construction of the GLIB. Four of the six members of the technical and cost evaluation teams were ELC personnel.

Since contract award, the ELC has been serving as the primary engineering and logistics resource for the Project Manager and PRO. This function has been an integrated process between the contractor and government from beginning to end. The result will be a ship that has extraordinary mission capability and is delivered with the proper documentation, spare parts and support philosophy that will ensure a smooth transition into ship operation.

The design incorporates a number of innovative ship system technologies including an integrated electric propulsion system, which allows the diesel generators to provide power for both ship service electrical power and propulsion. Computer based monitoring and control are also incorporated into the GLIB design, providing extensive automation to ship maintenance and operation. If desired, the Integrated Bridge System design provides the flexibility to operate the ship by one watch-stander The advanced automation improves operational efficiency while reducing work for watch-standers.

GLIB will also be the most environmentally friendly vessel ever operated by the Coast Guard. GLIB is designed to be a "zero" discharge ship. All waste liquids are stored in tanks, and all solid waste is compacted and stored in dedicated waste handling areas, for off-load while in port.

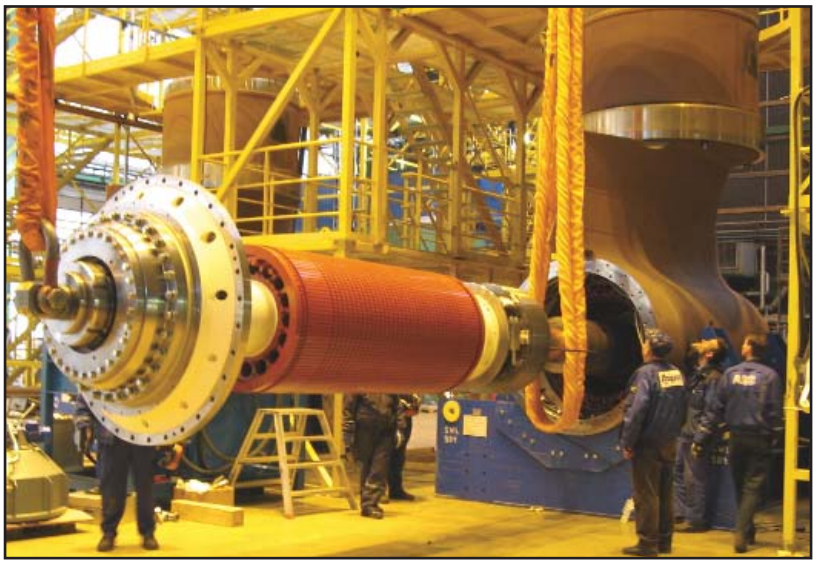
GLIB's propulsion system includes on two Azipod drives rated at 3360 kilowatts each. The ships service and propulsion power will be provided by three 3612 Caterpillar diesel generators, which will supply 3130 kilowatts each and an auxiliary diesel generator that will provide 718 kilowatts of power.

The Azipod propulsion system is the first of its kind aboard a USCG vessel. Each podded propulsor is capable of rotating 360 degrees, allowing the fixed-pitch propellers to deliver thrust in any direction for increased ship maneuverability.

The Azipods will be capable of delivering over 9000 shaft horsepower, enabling icebreaking operations in more than 32 inches of level ice at 3 knots. With the twin rotating podded propulsors and bow thruster, the icebreaker will be highly maneuverable in ice, greatly enhancing her ability to perform her icebreaking missions and assist Great Lakes shipping throughout the ice season.

GLIB's principal characteristics are as follows:

Length Overall	240' - 0"
Beam	58' - 6"
Draft	16' - 0"
Displacement - Full Load	3500 LT
Sustained Speed	15 kts
Accommodations	60



GLIB Azipod assembly.

In December of 2005, GLIB is scheduled to undergo ice trials, and the ELC has been tasked with planning and coordinating these tests. The principal objective of the GLIB ice trials is to evaluate the performance of the cutter in Great Lakes ice conditions in order to provide information on how to operate the cutter effectively and safely.

A test plan for the ice trials is currently under development, and the following ship performance parameters will be examined and compared to design specifications:

1. Ice resistance
2. Propulsion characteristics
3. Maneuverability characteristics
4. Strength of hull structures
5. Propeller-induced vibrations
6. Service performance

After the conclusion of the ice trials, the measured data will be analyzed. The results of this analysis will be used to develop the Operator Guidance Manual for Icebreaking.

Mandatory Turn-In Program

by Anissa Faulkner

Customer Service Branch ELC-018 manages the following programs in service to the fleet. Please also review our Branch information in a separate part of this edition.

MANDATORY TURN-INS (MTI) - The process of returning items that are Not Ready For Issue (NRFI) or "F" condition can be challenging. The MTI process can appear to be less-than-helpful, particularly if the ELC charged your unit for an item that you previously returned to the ELC. Two-way communications is key to a smooth transaction. To avoid unnecessary inconveniences, consider the following helpful tips:

- Determine if an item is an MTI prior to submitting requisition.
- When item arrives at unit, pull the BC1 document and return instructions immediately.
- If BC1 document is not available, call ELC Customer Service at once.
- Remove part from container, and replace it with the old part.
- Never destroy the shipping container, especially crates, they are reusable.
- Always return the item in its original container.
- Do not combine items; each part must be packed separately and clearly identified as per MTI instructions.
- Ship each item back to the ELC via traceable means (FEDEX).
- Maintain a unit file on all MTIs, which should include tracking information.
- If the item cannot be returned as per instructions, do not hesitate to contact ELC Customer Service.

The customer's role is critical to the success of this program. The combined efforts of the ELC and our customers make it possible to provide "Ready-for-Issue" parts to the next Coast Guard Unit that might need them. As the last person that handles the Code "F" carcass that is returned for refurbishment, the meticulous care that is exerted in the packaging, labeling and shipping of the returned item is a critical component of a successful MTI program.

CHANGE OF MAILING, FREIGHT AND BILLING ADDRESS FORM (CG 4183) - The ELC is responsible for maintaining Coast Guard unit address information in the DAAS website for all Coast Guard unit addresses. It is important for the unit to provide this information to the ELC to maintain their correct address in DAAS. Items ordered through the Federal Supply System are sent to the address listed in the TAC 1 address (Mailing Address) or the TAC 2 address (Shipping Address).

Units requiring changes (Change of Mailing, Freight and Billing Address) must send a CG-4183 to the ELC at the address listed below. More detailed information can be found in the SPPM, section 2-D-1 through 2-D-7. Section 2-D-7 explains how to fill out a CG-4183. Unit/MLC/District can mail the original to the address listed below. To expedite a change, please fax an advanced copy to Anissa Faulkner at 410-762-6080.

Commanding Officer
USCG Engineering Logistics Center
2401 Hawkins Point Rd, Code 05
Baltimore, MD 21226

If unit personnel require material from the Richmond Map Facility (Charts, Maps, Graphs, etc.), the unit needs to submit a DLA-1832. The website is very useful, unfortunately it is temporarily down but, in the future visit: http://www.dscr.dla.mil/pc9/. Their website also gives other information that may be useful to Cutters. Remember, DLA requires this form to update their database as well.

TRAINING - ELC's Customer Service Branch continues to attend conferences around the country. Our primary focus is to present up-to-date ELC business practices (Requisition procedures, MTI and ROD/QDR procedures). Our goal is to assist the fleet to meet its critical missions with timely and effective logistical support. If your unit is interested in hosting such a training event, please contact our Customer Service Helpline at (410) 762-6800.

Naval Inventory Control (NAVICP) Update 01

by Jeffrey Whitehead

As referenced in ELC ALCOAST Supply advisory Number 019/02, the liaison billet at the Naval Inventory Control Point Mechanicsburg, Pennsylvania, has been deleted. This billet has aided N35 Item Managers with processing requisitions containing Exception data, expediting time-critical requisitions, ensuring proper processing of CG generated RODS and QDR's, and monitoring Material Obligation Validation (MOV) requests/responses. NAVICP **will** continue to process all requisitions in accordance with the established MILSTRIP/MILSTRAP procedures, COMDIST M4400.19A and within the constraints of their internal process.

However, in the event that extraordinary issues arise, please contact the ELC's customer service branch at either (**410) 762-6800** or **1-800-366-7430**. "Units are reminded that customer service is staffed around the clock."

When returning repairables to the Naval Advanced Traceabilities and Control (ATAC) facilities, always consider the destination of the ATAC, i.e., East Coast or West Coast. Taking this into consideration can save you time and money and as an added convenience, pick-up can be arranged at some locations. For further details or to make pick-up arrangements please contact 1-877-423-7564, or visit http:/www.nor.fisc.navy.mil/home/ATAC.html to find a location nearest you. To report problems with pick-up service contact the ATAC Hub, Norfolk, Virginia at (757) 445-2060 extension 10.

Listed are some important customer reminders for the best service when returning items to the ATAC Facilities:

- One item per document (BC1, 1348-1).
- Legible and correct documentation.
- No exclusion items (call 1-877-418-6824 for list).
- Do not mail to CONUS Nodes - Conus mail should be directed to a Hub.
- Deployed units may route to OCONUS nodes - Activities that are not served by a node should forward to the Hub by traceable means.
- Ensure all HAZAMAT is properly certified.
- Get a signature turnover.
- Annotate items part number and serial number on BC1 Turn-In Document (1348-1).

Requisitioning CASREPS - CASREPs can also be faxed to the Naval Inventory Control Points (NICC), by calling either Virginia ((757) 443-1655) or California ((619) 532-4013) from the fax machine at your location. Units can process CASREPS over the phone by calling the NICC Customer Services at 1-877-418-6824. Status for all NAVICP requisitions can also be received by calling this number.

Integrated Logistics Reviews - The Coast Guard's ability to effectively plan and perform maintenance, accomplish engineering changes and provide logistics support is directly dependent upon the ability to manage configuration data, allowances and inventories. To date, the Coast Guard has invested millions of dollars in fielding NESSS, CMplus and FLS; however, these systems are populated with inaccurate or incomplete unit configuration data. The purpose of the CG Integrated Logistics Review (ILR) is to re-baseline unit configuration data in both FLS and CMplus.

The CG ILR has been tailored to focus on systems and equipment with a Mission Criticality Code of 3 or 4, in addition to all systems that have planned maintenance.

The CG ILR is comprised of the following five principal functional areas:

1. Configuration Verification and Analysis
2. Planned Maintenance System (PMS) Review
3. Technical Manual (TM) Review
4. Onboard Repair Parts Verification
5. CMplus and MICA Training

The ILR program will improve maintenance, supply support at the unit level and enable the Coast Guard to better manage equipment logistics support to meet units desired availability and operational effectiveness.

An ILR is unit specific and takes about one-year to complete. The ELC is currently working the WLB-225 vessel class. At the end of each ILR, a team from the ELC will visit each vessel to provide a two-day training session, a refresh of the unit CMplus database and a new MICA document.

For additional information on the ILR program visit the ELC Intranet site at:
http://cgweb.elcbalt.uscg.mil/ILR/ILR.htm.

ELC

ACRONYMS

ABC	Activity Based Costing
AEL	Allowance Equipage Listing
APL	Allowance Parts List
ARMS	Automated Requisition Management System
ATON	Aids to Navigation
BPA	Blanket Purchase Agreement
BPR	Business Process Redesign
CBM	Condition Based Maintenance
CCB	Configuration Control Board
CDM	Configuration Data Manager
CGMER	Coast Guard Maintenance Efficiency Review
CHT	Collection Holding Tank
CMP	Commodity Management Plan
CMPLUS	Configuration Management Plus
CONOP	Concept of Operations
COTR	Contracting Officer's Technical Representative
CSR	Cutter Support Review
DAAS	Defense Automated Addressing System
DRMO	Defense Reutilization Management Office
EC	Engineering Change
ECONOP	Engineering Concept of Operations
ECR	Engineering Change Request
EDC	Estimated Date of Completion
EDC	Event Driven Costing
EECEN	Electronics Engineering Center (now defunct)
ELC	Engineering Logistics Center
FLS	Fleet Logistics System
FRACAS	Failure Reporting and Corrective Action System
GFE	Government Furnished Equipment
GLIB	Great Lakes Icebreaker (now MACKINAW)
HAZMAT	Hazardous Materials
HM&E	Hull, Mechanical and Electrical
ILR	Integrated Logistics Review
ILSMT	Integrated Logistics Support Management Team
IM	Inventory Manager
IMO	International Maritime Organization
IPT	Integrated Product Team
ISO	International Standards Organization
IT	Information Technology
JETDS	Joint Electronic Type Designation System
MDE	Main Diesel Engine
MICA	Management Information for Configuration Allowance
MLC	Maintenance and Logistics Command
MPC	Maintenance Procedure Card
MPCMS	Main Propulsion Control and Monitoring System
MSU	Mobile Support Unit

MTI	Mandatory Turn-In
NEMLWG	Naval Engineering Maintenance Logistics Working Group
NESSS	Naval & Electronics Supply Support System
NESU	Naval Engineering Support Unit
NE-TIMS	Naval Engineering Technical Information Management System
NRFI	Not Ready for Issue
NSC	National Security Cutter
OBRP	On Board Repair Part
OEM	Original Equipment Manufacturer
OGA	Other Government Agency
PM	Platform Manager
PMS	Preventive Maintenance System
POE	Point of Entry (Requisition Fill Rate)
PR	Procurement Request
PRO	Project Resident Office
PTD	Provisioners Technical Documentation
QA	Quality Assurance
QAR	Quality Assurance Representative
QAT	Quality Action Team
QDR	Quality Deficiency Report
RCM	Reliability Centered Maintenance
RFI	Ready for Issue
ROD	Report of Discrepancy
RPC	Rugged Positioning Computer
SCB	Supply Center Baltimore
SCCB	Supply Center Curtis Bay
SMEF	Systems Management Engineering Facility
SSMEB	Ship Structure & Machinery Evaluation Board
TISCOM	Telecommunication and Information Systems Command
TSM	Type Support Manager
VLS	Vessel Logistics System
VLSSB	Vessel Logistics Sustainment Branch
WHEC	High Endurance Cutter
WMEC	Medium Endurance Cutter
WPB	Patrol Boat
WoW	World of Work

Climbers ascend a tower for visual inspection of guy wires.

Coast Guard Tower Engineer Summit

by LT Jonathan Musman
Civil Engineering Unit Juneau

Six Coast Guard civil engineers from four Civil Engineering Units (CEUs) and Mr. Jim Wells from Communications Station (COMMSTA) Kodiak met at LORAN Station (LORSTA) Middletown, approximately 60 miles west of Sacramento, California to conduct training on tower maintenance and inspection, while completing the required biennial inspection of the 625' LORAN tower. The training, inspection and maintenance was accomplished during a five day period from March 22nd through 26th, 2004. LT Jonathan Musman and LT Jason Kremer both of CEU Juneau were trainers with technical assistance from Jim Wells.

LORAN towers are structurally unique compared to the vast majority of broadcast towers in the United States, therefore, contractors who work on these structures are often not familiar with their characteristics and how to properly adjust and maintain them. Currently CEU Juneau is the only unit that continues to conduct in-house inspections and maintenance of tall towers (greater than 300'). Due to the difficult logistics and unpredictable Alaska weather, the cost to contract all of the required tower inspections would be excessive. By conducting inspections and performing routine maintenance in house, CEU Juneau

An insulator assembly is lowered to the ground for repair.

engineers are able to maintain their proficiency and more effectively monitor contractors during contract inspections.

The concept of the training was to instruct the tower engineers on the basics of tower inspection including measuring and adjusting guy wire tensions, evaluating tower alignment, visual inspection of lighting components and inspection of all structural components. The trainees were in the unique position of acquiring the needed tension and alignment data not only for practice, but to also be used in the final inspection report. Maintenance conducted included repairing galvanizing, replacing tower light bulbs and replacing a damaged gradient cone. The gradient cone repair required lowering one of the guy wires that is attached to the top of the tower, known as a top loading element, to replace a large stainless steel ring that is attached to the insulators that had a broken weld.

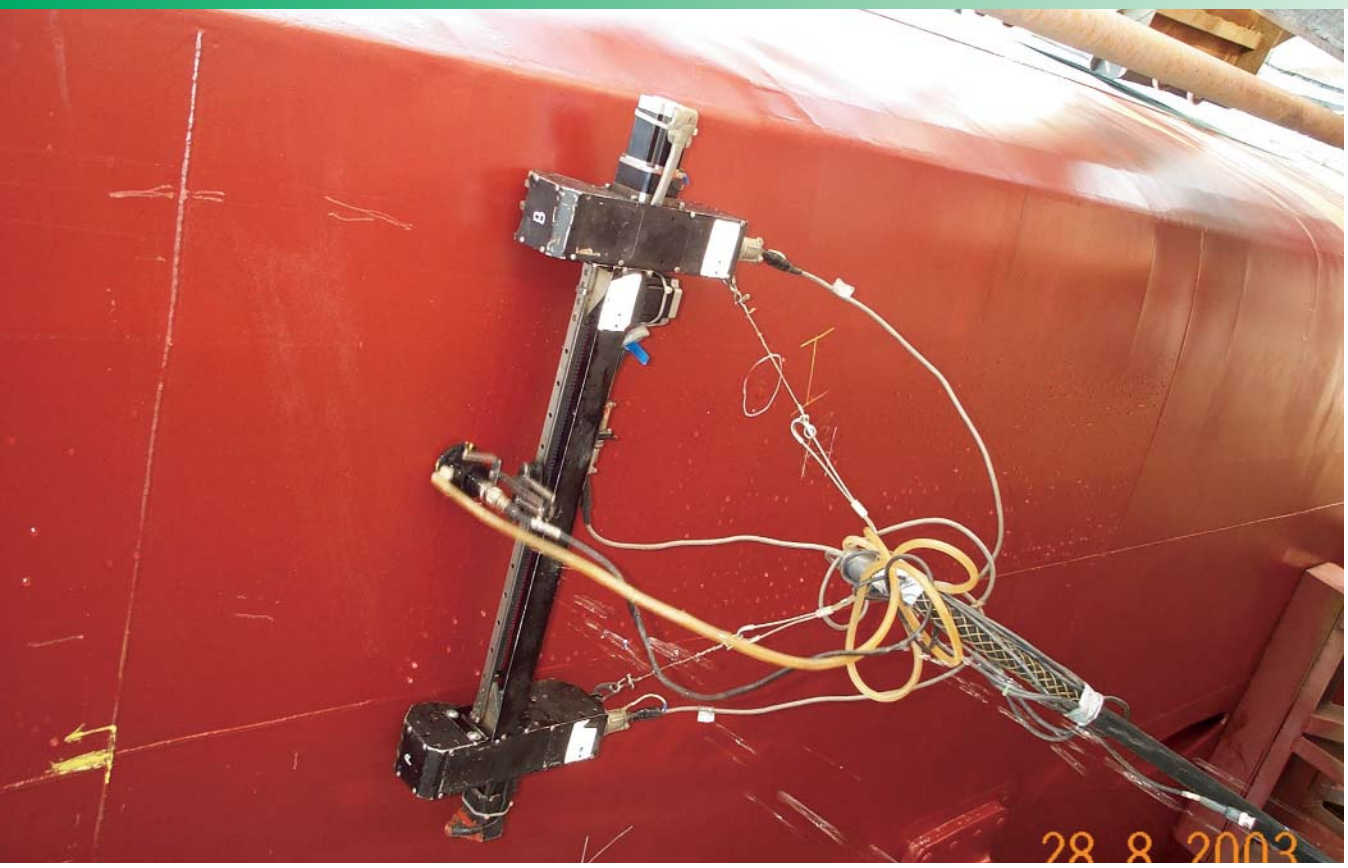
Field work lasted 10-12 hours per day, and the group met every evening to discuss the work for the next day and program wide tower issues. By the end of the week, all the tower engineers had worked hard to complete the inspection and maintenance, while learning the procedures and the physical demand of tower work. This hands on experience will allow CG tower engineers to better evaluate contractors proposals and technically assess their work. Not only was this a valuable training evolution, but the work accomplished would have cost approximately $30K to complete commercially.

An insulator assembly is disconnected from guy wire.

Improving Hull Assessments With High Density Ultrasonic Mapping Technology

by CDR Keith Herchenroder and
LCDR Joe Siemiatkowski
MLC Atlantic

USCG photo by PA2 Kyle Niemi



A creeping slide bar, driven by two motors,with a movable ultra-sonic head moves across CGC SITKINAK's hull searching for excessive cor-rosion and hull failures.

In recent years, Maintenance and Logistics Command Atlantic (MLCA) has spent a substantial amount of funding repairing excessive corrosion and hull failures in several cutter classes, including 378' WHEC (High Endurance Cutter), 210' WMEC (Medium Endurance Cutter) and 110' WPBs (Patrol Boat). This has also come at a loss of valuable operational time. The most visible issues related to this situation have been with the 110' WPBs. Faced with an increasing number of hull breaches and emergency drydockings, a Hull Sustainment Program (HSP) was developed by MLCA in an effort to restore the hulls to "safe for sea" condition. The HSP allowed for extensive hull repairs to 22 A and B Class 110' WPBs. To date, six 110' WPBs have completed an eight month major drydock availability that literally gutted the lower section of the vessel and blasted the hull inside and out, and replaced plating and structural members that were found to be in unsatisfactory condition. Three more 110' WPBs are currently at the Coast Guard (CG) Yard for this availability. On average, 600 square feet (some as high as 950) of hull plating, along with 250 linear feet of structural members per hull were renewed during this project at a cost of over $2M per hull at the CG Yard.

During this program, it became apparent that the standard method to ascertain the hull condition using hand held ultrasonic (UT) shots on a one foot square basis was very time consuming, expensive and inadequate. Using this method, we were gauging four ½ inch diameter points, for every 144 sq inch area of plating. Since many of the plate failures were of the localized "pinhole" type, the likelihood of finding a pit or an isolated area of corrosion was extremely small. With this limitation, the only effective means for survey is to gut and blast the hull inside and out, allowing us to visually inspect, locate and replace all of the corroded plating. Thus, out of necessity, HSP was born. It was the only practical alternative to decommissioning the cutters as unsafe to sail. Recognizing the need for a better hull survey method for all the CG's aging hulls, MLCA (Patrol and Std Boat Section) pursued new technologies that could be used in routine and emergency availabilities in the future.

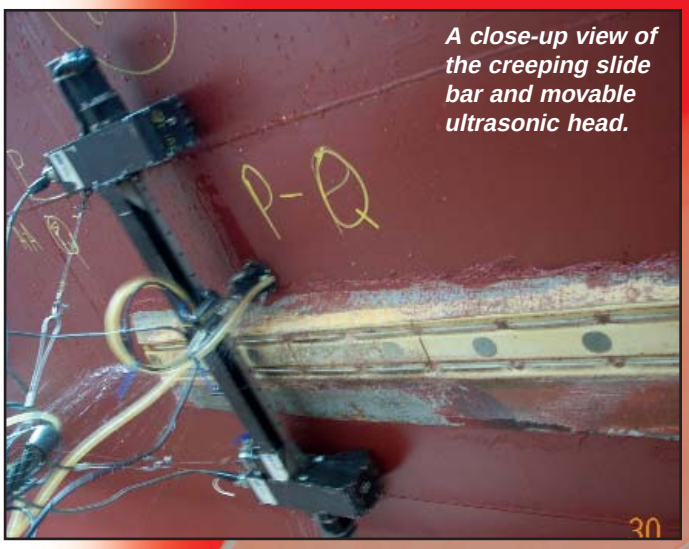
Our first effort was to look at a Navy sponsored system that utilized an underwater mobile vehicle that followed the curvatures of the hull and record UT readings. This method utilized three radio frequency probes, attached to the hull, that were used as reference points so when bad metal was found it could be located later in drydock. This survey method had several benefits: the vessel did not have to be in a drydock, testing could be accomplished at homeport, and the findings could be incorporated in a work package for an up coming availability. The Navy was using this system with success on FFG7 class ships. With all of the benefits came some problems for our intended application: the vehicle was not able to follow the curvatures of a 110, the hull had to be cleaned prior to the scan, and the dead reckoning process was not completely accurate. We abandoned this approach as the technology required additional development costs and time we were unable to invest. However, we did not

abandon the concept. MLCA continued to research the method, seeking industry partnership, as we saw its potential; given the proper underwater vehicle.

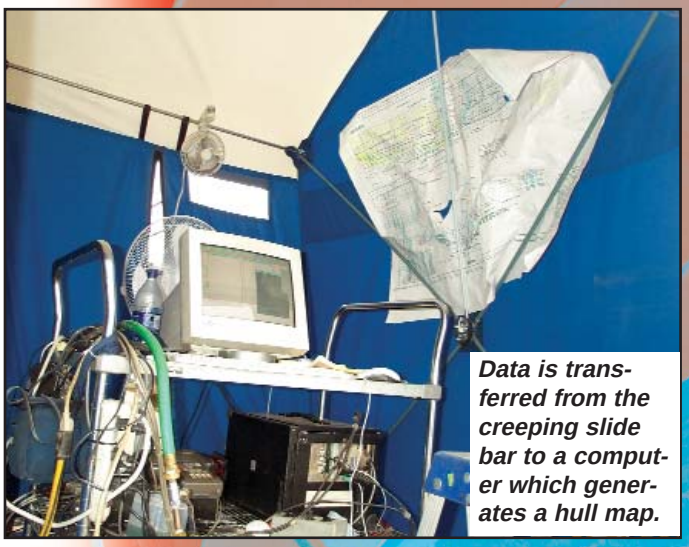
The second attempt was thermal imaging. This technique was previously used by the Navy in assessing the material condition of aircraft. The Aircraft Repair and Supply Center (ARSC) had been working to incorporate this technology in their airframe inspections, so MLCA asked ARSC to partner in exploring this technique on ship hulls. The concept utilizes a high intensity light to flash heat at the area being examined. The rate of cooling, moderated by different metal thickness, is measured and mapped. This technique would provide 100% coverage of the area shot and an accurate map of metal thickness could be plotted. This technique was tested on CGC SAPELO during her HSP. Unfortunately, the technique proved difficult on a large scale to correlate the readings to specific locations on the hull, and a large number of false positives were noted. The process also took 28 days to conduct and six weeks to get the final report. Although interesting, it was not responsive enough for the dynamic environment of a cutter in drydock.

The third concept was to improve on the conventional UT shot method and incorporate a hull mapping process. After additional research, the idea of a high saturation UT mapping appeared feasible. In a collaborative effort between MLCA and OCEANEERING, Inc. in Upper Marlboro, Maryland, this mapping concept became a reality. This process utilized pre-existing equipment, a computer, a "creeping slide bar" driven by two motors, and movable UT head. The mapping parameters established a UT shot be taken every ½ inch and color thickness maps of the plate be output to identify corroded metal, red indicator for 15% wastage, yellow for 10% wastage and green for less than 10% wastage. An additional requirement was to have a numerical readout available of the actual UT reading at any given point on any plate. All metal with 15% or greater wastage was to be removed. The 15% wastage is less than the industry 25% requirement but realizing the 110's are "thin skinned" vessels, MLCA elected to err on the side of safety.

The first use of this prototype system was performed on CGC SITKINAK in a commercial HSP and had mixed results. Approximately one million shots were taken over SITKINAK's hull and the data transferred to a computer generated hull map. All the readings had to be referenced against the design thickness of each particular hull plate, 98 plates total. (110s have different hull thickness in different areas of the ship.) In a subsequent step, the results were then color-coded, relating the relative thickness to create a color image of the plate. Errors made in preparing the vessel for a side scan UT made the gathered data inaccurate and useless. Lessons learned during this initial trial; the outside hull surface must be blasted and primed; each plate must be measured and done independently;



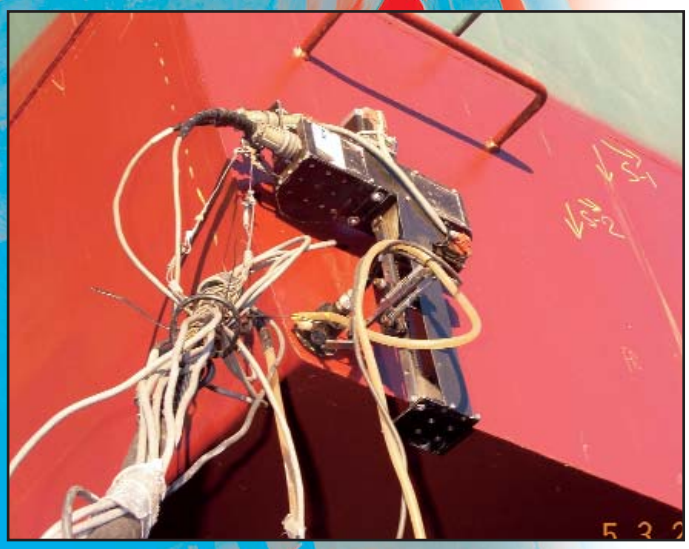
A close-up view of the creeping slide bar and movable ultrasonic head.



Data is transferred from the creeping slide bar to a computer which generates a hull map.

An area marked on hull where corrosion or possible point of hull failure was detected.

A worker positions the creeping slide bar on the side of the cutter.



and a grid must be incorporated in order to locate corroded metal. These problems were addressed in subsequent scans on other hulls. A substantial amount of refining of the computer presentation was also put in place. With these refinements, "Side Scans" of other vessels have proven to be very effective at determining condition of the hull plate and finding the exact location of the suspect areas. We expect that with this technology now in hand, we will be able to reduce the cost and duration for a hull renovation by being able to pinpoint the location and extent of internal corrosion from the outside. A less invasive repair approach can than be applied, no longer requiring us to gut the vessel's interior for visual inspection and repair. Recently, this process was used to map areas of concern on a 210' WMEC early in its drydock availability. The UT scan revealed a number of areas that fell below the acceptable criteria. Follow-up inspection of those areas led to replacement of hull plate in four areas and documentation for continued observation of other areas of concern that will require replacement in the future as part of a base work package, rather than as unplanned growth in the availability. At this point, the system was already paying for itself through cost avoidance in present and future availabilities.

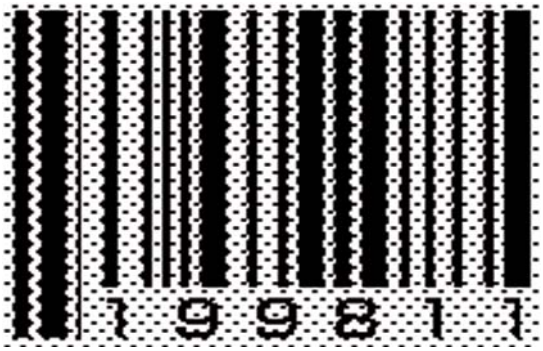
Constraints of the Side Scan UT method include the need to water blast and prime the area of concern to get the proper surface, and other contract work on the vessel may be impacted by the time/requirements needed to conduct the shoot. This adds time to the availability; especially during cold weather months when extra set up for environmental conditions can cause delays. The cost is also a factor -- currently, it costs $27,000 to scan below the waterline on a 110' WPB. The side scan shooting requires five days on the drydock floor and another seven working days for the final report. However, you do not need the final report to make decisions, as the operator has the ability to immediately point out bad areas, in real time, as the scanner goes over the plate. These areas can be quickly marked for further investigation. Another limitation is that this technique does not uncover wasted structural members on the interior of the vessel. Those must still be found the old fashion way -- visual inspection! These drawbacks, however, are easily outweighed by the rapid, accurate assessment of a large surface area. Finding and assessing hull problems early on in the availability avoids costly delays in needed repairs through better work planning; it also enables management decisions of "repair now" or "defer until later" based upon trends and experience.

In conclusion, we have been able to refine the high-density ultrasonic mapping technology to serve as an effective and useful tool in assessing the condition of hull plate with a high degree of accuracy. As the fleet ages and continues to experience hull corrosion problems, this technology offers an ability to pinpoint problem areas of hull corrosion and allows for cost effective and timely repairs.

U.S. Coast Guard Automatic Identification Technology Barcode Program

by CWO Greg Snyder (G-SLI)
CWO Al Garofalo (ELC-053)

To assist with the maintenance of Operating Materials and Supplies (OM&S) inventory and Oracle financial property, the Coast Guard uses Automated Identification Technology (AIT) barcode hardware in conjunction with the mission essential applications Configuration Management Plus (CMplus) and Oracle Financials. AIT barcode equipment provides the means for automatic identification, data collection, keyless data entry, data processing, storage, record maintenance and retrieval of Coast Guard property. Proper use of the AIT program will help you meet the Chief Financial Officer's (CFO) reporting requirements for maintaining unit level OM&S, as well as providing Total Asset Visibility (TAV) information to the Fleet Logistics System (FLS).



The barcode reader currently used is the Janus 2020, a one-dimensional hand-held barcode reader. The barcode label printer currently used is the Code Writer 4102. Both were purchased under the U.S. Army's AIT I contract. This equipment is antiquated and is no longer available for commercial or government purchase. The AIT maintenance contract to support it expired in March 2004. Working with the DoD's (Department of Defense) Joint AIT committee, G-SLI, as well as DoD reps, have tested and identified Symbol barcode technology as a suitable replacement for the Janus 2020. The Symbol barcode reader (PDT 8100) that G-SLI selected is a pocket PC reader that fulfills DoD's mandatory requirements for a two-dimensional barcode reader. Symbol Inc. has also been awarded the DoD AIT II contract for new initiatives. G-SLI is working with Symbol and TISCOM to approve the CG's barcode software for use on this scanner. Once approved, this software will be available for download to a unit's scanner from G-SLI's website. G-SLI has also identified and tested the Zebra PT403 printer as a replacement for the old Code Writer printer. This is a user-friendly, lightweight and rugged printer that has received good reviews. The resource proposal to recapitalize the antiquated barcode equipment did not receive funding in the current budget cycle. G-SLI will continue to resubmit the proposal until it is funded. Unless and until that happens, SLI has made the complete Symbol (PDT 8100) scanner and Zebra PT403 printer package available for purchase by individual units off the RFID II government contract until January 2006, with maintenance availability until January 2008. The AIT III contract has been awarded to Intermec Corporation. G-SLI is currently looking at compatibility of Intermec equipment with the barcode software application.

G-SLI will continue to search for ways to fund the recapitalization of barcode hardware. SLI will continue to work closely with the CMplus/FLS Application Managers to ensure that closer integration occurs between FLS and CMplus. In conjunction with DoD Radio Frequency Identification (RFID) Policy, SLI is investigating Coast Guard's future need for RFID. ST

CG-6

by LTJG Sarah Bauer
CG-621

Why CG-6?

You are probably all aware of the dramatic changes resulting from the reorganization of G-SC and G-CIT into the new office of CG-6. What you may not be aware of -- even if you've been following this transition -- is why the Coast Guard made this change and how it will enhance the development of Command, Control, Communications, Computer and Information Technology (C4&IT) systems within the Coast Guard. An integrated approach to the maintenance and support, as well as the planning and management of C4&IT systems, is required as a result of Federal and Department of Homeland Security laws, regulations and policies. The two major aspects of the CG-6 organization -- Resource Management and Enterprise Architecture/Planning -- provide the organizational mandates to meet these requirements. Will this merger really help improve the current processes, or will it just create a new, but just as cumbersome bureaucracy?

Creating a Better System.

CG-6 reached initial operating capability in October of 2003 with the merger of G-CIT and G-SC under the leadership of the Chief Information Officer (CIO). The merger provides a single point of contact for all C4&IT management within the Coast Guard. The charter for CG-6, signed by the Chief of Staff, assigns responsibility to the CIO for enhancing mission performance through the integration of technology. Achieving this goal requires both organizational realignment and process improvement. Defining the new organizational charts, routing symbols and rating chains was the easy part. The new CG-6 organization balances and aligns the maintenance and support of all C4&IT systems with planning and management aspects of a successful C4&IT organization. It also accounts all the various aspects and types of Information Technology systems in the Coast Guard. To realize Full Operating Capability (FOC), the organization must shift how enterprise management of C4&IT assets occurs -- emphasizing a fully integrated, functional and empowered organization to meet the high expectations for C4&IT usage in the new Department of Homeland Security and the Coast Guard.

Policy Adaptive to Change?

The CG-6 Transition project seeks to prove that this isn't just a realignment of the "same old deck chairs on the Titanic." The project brings together a group of cross-programmatic and cross-organizational experts to develop the ideal enterprise C4&IT planning, production and stewardship management system for the Coast Guard. Specifically, a system comprised of policies and practices to effec-

tively plan, implement and manage C4&IT asset development, deployment and disposition within the Coast Guard.

The policy for this system consists of a set of Commandant's Instructions defining the functional responsibilities and roles for each of the stakeholders in the C4&IT development process (see Figure 1). Policies are designed to be enduring; the roles and responsibilities under each one will not change quickly. These roles may be vested in various organizational elements dependent upon the C4&IT initiative being managed. In addition, since only functional roles are assigned, omitting specific Headquarters (HQ) designations or commands, the policies will stand the test of subsequent HQ realignments or name changes.

Practices will provide the "how" to accomplish the policy. Practices can be anything from manuals to handbooks, or even online tools, all written to ensure that every aspect of planning, development, maintenance and disposition of C4&IT assets is fulfilled. Some of the practices will be used to assist Headquarters level staff to make informed investment decisions about C4&IT assets. Other practices, involving system developers, are included to ensure all appropriate guidance is available to walk users through each phase of a system's life cycle. Practices are more dynamic and are updated as necessary to align with emerging technologies. A smaller, cross-programmatic/cross-organization review group will ensure practices align with current Federal and Departmental policies, and serve the needs of the Coast Guard.

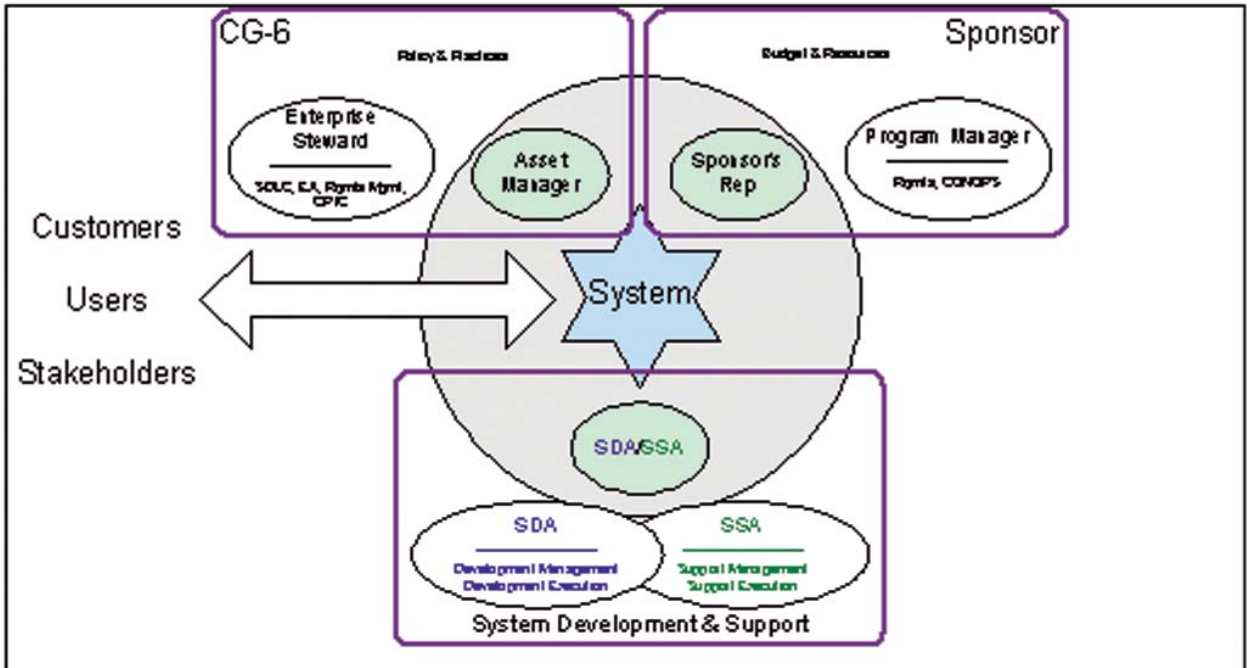


Figure 1. Functional responsibilities for C4&IT systems.

What are the New Key Roles?

Figure 1 illustrates how each of the entities involved in developing a system are related, and their responsibilities with respect to one anther as they work together to ensure a system is planned, built, deployed and disposed of in the most cost effective and efficient manner. Critical to the success of all C4&IT initiatives is open communications between the key members of the team for every C4&IT initiative -- the Asset Manager, Sponsor's Representative and the System Development and Support Agents (SDA and SSA, respectively).

The Asset Manager within the CG-6 block ensures that the system under development integrates into the greater CG-6 world of work. The Asset Manager also keeps all systems aligned with the Enterprise Architecture and ensures they meet all information assurance requirements. The Asset Manager facilitates the project through the policies and practices involved with C4&IT management. Working with the Enterprise Steward, the CG-6 Group uses ongoing system development as a feedback loop into the review of standing policies and practice.

The Sponsor's Representative links the sponsor's organization into the life cycle of a C4&IT system. The Sponsor's Representative works with the sponsoring organization to ensure the system is meeting all operational requirements. In addition, the Sponsor's Representative works with the program manager to ensure all budgetary requirements are met for system development, maintenance and later disposition. The Sponsor's Representative facilitates the coordination and gathering of user input and field requirements when a system is being developed. As a member of a closely integrated team, the Sponsor's Representative uses the support and knowledge of other team members to guide the C4&IT initiative through the development process.

The SDAs and SSAs provide the technical expertise to design, implement, maintain and dispose of C4&IT systems. Even though the SDA has a bigger role in the beginning, both the SDA and SSA serve a key role through all phases of the system's life cycle.

When will we see the new Policy and Practice?

The Establishment of the CG-6 Directorate and Associated Duties policy document, defining the overarching responsibilities for the Asset Manager, Sponsor's Representative, SDA and SSA, is currently going through concurrent clearance. The 2nd tier of policies defining the functional roles in terms of responsibility toward the Enterprise Architecture, Information Assurance, System Development Life Cycle, Infrastructure and Configuration Management is also in the concurrent clearance process. The practice development for these policies is ongoing with each of the development teams meeting bi-weekly.

The goal of the CG-6 Transition Team is to have all policy and practices for each of the major areas, above, completed by the end of September 2004. A policy for Investment Management is being developed with targeted policy approval and draft practices by the end of September as well.

CG Central is being leveraged as a collaborative development environment for all draft policies and practices. Check with an appropriate CG-6 representative to become a member of the CG-6 Transition micro site.

Conclusion

With the new body of policy and practice developed by, and for, the C4&IT community, the entire CG-6 body of documents will provide an end-user outline of the required deliverables and actions of each participant in the development of a system. The Asset Manager, working with the SDA/SSA and Sponsor's Representative, will ensure the system meets the budgetary, business and mission requirements throughout the entire life cycle of emerging systems.

CG-6 is not just another reorganization. Based on the Commandant's goal of Stewardship, the new CG-6 organization will ensure business and mission alignment with the Federal, Department of Homeland Security and the Coast Guard-wide goal of efficient and effective leveraging of C4&IT assets.

Coast Guard Personnel Receive Copernicus Award

by CDR Tom Pedagno
CG-621

Three members of the Coast Guard's Command, Control, Communications and Computers (C4) community, Mr. Donald Allen, LCDR Stanley Balint and LT Peter Van Ness, are recipients of the 2003 Copernicus Award. These three members were among only 29 personnel to be recognized from a community of several hundred eligible members from across the Navy, Marine Corp and Coast Guard. They were formally recognized at an Honors Reception and Dinner on 03 February 2004, held in conjunction with the annual West 2004 Conference in San Diego, California.

The Copernicus Award was established to recognize individual contributions to naval warfare in the disciplines of C4, Information Systems and Information Warfare. The Armed Forces Communications and Electronics Association (AFCEA) and the U.S. Naval Institute (USNI) sponsor the award. The combined efforts of the operational and support commands have been notably successful in bringing the Coast Guard smartly into the information age. Individual Coast Guard personnel have played critical roles in enabling a revolution in command and control and e-CG based on communications and information technologies. Coast Guard achievements have been made through a set of common principles and, most importantly, the actions and determination of individuals, military and civilian, junior and senior. The Copernicus Award for exceptional individual achievement was established to honor those people and to recognize their contributions.

Mr. Allen, assigned to the Command and Control Engineering Center (C2CEN), was recognized for his work as the Senior Test Director for Shipboard Command and Control Systems. Mr. Allen provides critical technical expertise for the Coast Guard in C2. The Shipboard Command and Control System (SCCS) deployed aboard Coast Guard cutters combines navigation and tactical

MG Eugene C. Renzi, USA (Ret.), Chairman of the Board of Directors of AFCEA; Mr. Don Allen; CAPT Bob Nutting, USCG, Commanding Officer, C2CEN; VADM Herb Browne, USN (Ret.), President & CEO of AFCEA International; MajGen Tom Wilkerson, USMC (Ret.), CEO and Publisher of the USNI.

operations under the Common Operating Environment. Mr. Allen has significantly enhanced the development and testing of the SCCS across all afloat platforms. Working in conjunction with SPAWAR and NAVSEA, he identified a multitude of software problems with the Command Display and Control Integrated Navigation System (COMDAC INS). Mr. Allen's critical findings resulted in a high priority advisory transmitted to the fleet and influenced the manufacturer to modify their production process.

LCDR Balint was recognized for his work on the implementation of the Coast Guard's plans to stand-up a SIPRNET Management Office (SMO) at the Telecommunications and Information Systems Command (TISCOM) and for serving as the first manager of that office. The SMO centralizes the management of all efforts to deploy, manage and support Coast Guard connectivity to DoD's (Department of Defense) classified network; connectivity that has proven to be operationally critical in the post 9-11 environment. He has expanded the network to 30+ crucial new locations and continues to deploy SIPRNET classified systems to new sites at a rate of five locations a month. Every new site has connectivity established, workstations and servers built and installed, and certification accreditation completed.

LT Van Ness was recognized for his work as the C4 lead engineer, Radio Systems Division at TISCOM. Under his direction, 25 cutters have received the High Frequency Data Exchange system providing substantially more reliable record message delivery at nearly 700 times the speed of the system it replaced. His efforts enabled critical message delivery to four Coast Guard Patrol Boats operating in the Persian Gulf in support of Operation Iraqi Freedom. To enhance the cutters' capabilities, a hybrid network was created combining commercial satellite communications with high frequency radios. The hybrid network used Coast Guard capital cutters in theatre as a relay and accelerated the deployment of the Satellite Data Exchange system being developed by the Coast Guard. LT Van Ness traveled to the Middle East with a five-man team and successfully completed seven installations, improving critical secure message delivery times to the patrol boats from six plus hours to near real time. He also developed an innovative solution to establish SIPRNET e-mail capability on the patrol boats and at CG Patrol Force Southwest Asia, dramatically improving coordination capabilities.

The Office of Communications (CG-62) administers the Copernicus Award within the Coast Guard for the Assistant Commandant for Command, Control, Communications, Computer and Information Technology (CG-6). Additional information and the complete nomination submission packages for all three persons can be found at http://cgweb.comdt.uscg.mil/g-sct/copernicus_award.htm.

MG Eugene C. Renzi, USA (Ret.), Chairman of the Board of Directors of AFCEA; LT Pete Van Ness, USCG; CAPT Mike Grimes, USCG, Commanding Officer, TISCOM; VADM Herb Browne, USN (Ret.), President and CEO of AFCEA International.

2004 DISA DMS

Award Winners

Pictured above are the 2004 DISA DMS Award winners from the Coast Guard, recipients received their award at the 2004 DMS Conference in Dallas, Texas on 4 May 2004.

From left to right:

LCDR Steve Wolf, DMS Program Manager, CG-62
CWO4 Mike Hart (TISCOM), Pioneer Award
IT2 Avatar Fitch (accepting on behalf of IT2 Ian Thurston, CAMSPAC), Pioneer Award
LT Tony McCullough (CAMSPAC), Local Control Center of the Year
CWO2 Barbara Bennick (CAMSLANT), Local Control Center of the Year
Mr. Rhy Payne (CAMSPAC), System Administrator of the Year
ITC Jeff Morris (CAMSLANT), System Administrator of the Year

CG Central

The e-CG vision describes an environment where members can choose to go online, anytime, anywhere to get work done. The CIO is proud to announce the delivery of CG Central, the Coast Guard's first enterprise capability for advanced collaboration and information "findability." With CG Central, collaboration and controlled access to authoritative information are the norm. Coast Guard users are able to find people, web content, data, documents and applications in their jobs without specialized skills and in reduced time. CG Central is the necessary infrastructure that is foundational for delivering on the e-Coast Guard vision. The CG Central Team leveraged and integrated search, portal, data warehouse, business intelligence, workflow, security, and Intranet design technologies to aid CG users in performing their mission. When independently compared among 100 industry and government competitors worldwide, the Coast Guard was awarded, "Top 10 Intranets of 2003" for the CG Central portal by Nielsen Norman Group, internationally recognized as the Usability experts.

CG Central's Top 10 Value Propositions DELIVERED!

1. Users can now find ALL Commandant Directives easily, including their DPRI and latest change number ... sounds easy, but is a first to be integrated with document text search.

2. Users can FIND CG People, who can find them: Users can search for people based upon 20 frequently used fields to answer complex questions, like, "Who are the LCDR pilots who are rotating in 2005 in Florida or Hawaii?" or "How many female BM1s are in Alameda?" or "I need an excel spreadsheet with all aircrew who have the LTS101-Lycoming qualification for C-130 airframe who are in Kodiak." Answers are available in seconds and require no CODE by the user.

3. Information Search is integrated for the document and the metadata about the document for improved findability.

4. All civilians and military find their personal readiness information integrated in CG Central without specialized skills.

5. Users can collaborate in members-only virtual workspaces and control their membership and folder/document access without a spec of code.

6. Most CG Applications are easily access via current links plus a bucket with their user guides and job aides.

7. Hotline (Customer Support) provides quick response to user questions or issues.

8. A rich taxonomy of content for of ALL Coast Guard Programs and Missions is available for user publishing based upon their publishing rights. Content can be published using workflow and scheduled to go on and off-line on time which greatly reduces efforts to keep content current and authoritative.

9. Alerts let any user know if their specific subscriptions have newly published information.

10. ALL personal data in "My Assignment, My Profile, My Readiness, People Search, etc." is refreshed daily, automatically. If a user changes his unit, My Unit will show his new unit's information automatically.

Supporting Homeland Security