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NCE

NAVY CIVIL ENGINEER

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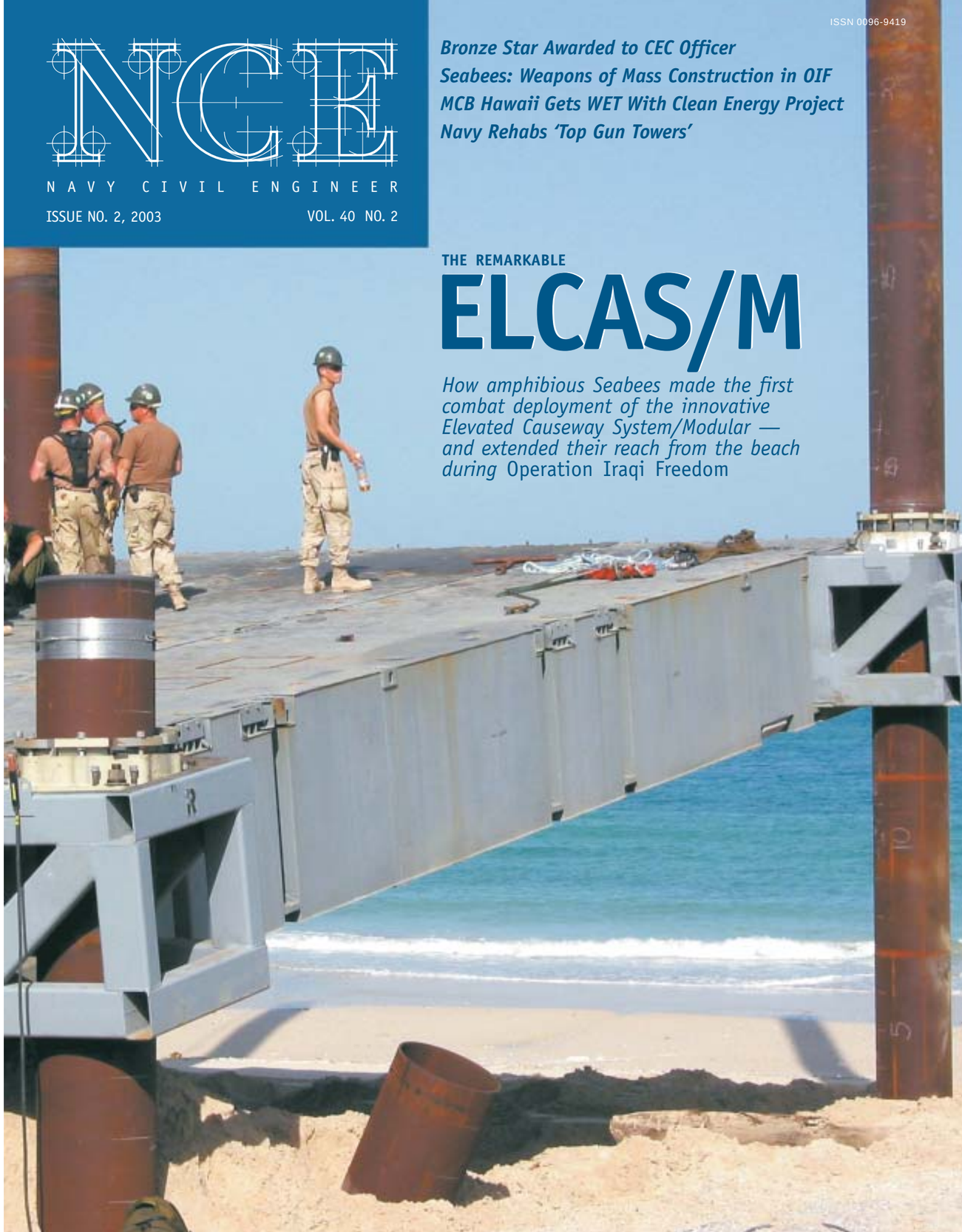
Bronze Star Awarded to CEC Officer
Seabees: Weapons of Mass Construction in OIF
MCB Hawaii Gets WET With Clean Energy Project
Navy Rehabs 'Top Gun Towers'



THE REMARKABLE

ELCAS/M

How amphibious Seabees made the first combat deployment of the innovative Elevated Causeway System/Modular — and extended their reach from the beach during Operation Iraqi Freedom

NAVY CIVIL ENGINEER

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NAVFAC Naval Facilities Engineering Command

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SPEAKING FROM

topside

As I approach the completion of my tenure as Chief of Civil Engineers, I want to reflect on several potential changes on the horizon for Naval Facilities Engineering Command (NAVFAC).

The CNO, after careful review and analysis of alternatives, made the decision to realign functions and resources to a single claimant — Commander Naval Installations (CNI). This single command will unify program/policy actions and be a program advocate for Navy installations. CNI is the latest step in improving efficiency and effectiveness of Navy shore installation management (SIM).

Consolidating the functions of divesting claimants enables CNI to establish common standards of operation and set common service levels Navy-wide. It promotes efficiencies through proliferation of best practices and implementation of Navy-wide SIM policies.

Prior to the standup of CNI, each claimant developed its projects and established the requirements for shore installations in its area of responsibility. Each also often had different policies and procedures at various levels within the organization.

Commander Atlantic Fleet, Commander Pacific Fleet, Commander Navy Europe, Commander Naval Reserve Force, Naval Sea Systems Command, Naval Education and Training Command, Fleet Support Activity, Naval Security Group, Space and Naval Warfare Systems Command, Office of the Chief of Naval Research, Strategic Systems Program and Naval Air Systems Command will transfer their installation support responsibilities to Commander Navy Installations.

As the systems command for DON shore facilities, NAVFAC is responsible for program execution through acquisition of facilities and services, and is the fiscal and technical authority for the public works centers. Basically, we are the technical experts for these matters and CNI provides overall leadership, policy, planning, programming and budgeting for shore installation management.

CNI will oversee the management of a broad variety of installation support functions that comprise the Installation Core Business Model. The model is structured into four key areas: Operating Forces Support, including port and air operations; supply, weapons and ranges; community support, including personnel support and housing; and base support, including facility support, environmental, public safety, and command and staff.

In order to better align ourselves with CNI as a major client, we reviewed the work both organizations perform and what resources we shared so we could become a key partner of CNI, both at the headquarters and field levels.

This realignment will be a huge opportunity for consistent policy across the Navy shore establishment. It promises savings by reducing resource requirements for shore installations, making those resources available to the warfighters. This is an opportunity to simplify, streamline and work together as a team.

Another area we are looking at is merging some or all of the Public Works Centers (PWC) and Engineering Field Divisions/Activities (EFD/A). By merging the PWCs and EFD/As, NAVFAC can be more efficient and effective, enhancing its operational support to CNI, the regional commander and to the Marine Corps. We are also expanding the Navy Working Capital Fund to some public works departments, then potentially for public works support to the entire region. This would be a major step toward Activity Based Costing-Management (ABC-M).

ABC-M is a more detailed look at how much it costs to perform certain functions (total cost per unit of output). If we can expand this concept over the entire region, we will have improved visibility of what our costs are — and then we can drive them down.

The realignment also positions us to better support our Marine Corps partners. The combination of the PWC and EFD will make available to the Marines an expanded capability for facilities support across the entire shore spectrum.

One of the biggest areas of change will be in the Family/Bachelor Housing/Flag Program Management business line. This entire range of functions, including all employees, will transfer to CNI Headquarters (or regions) to be located in Naval District Washington, Anacostia Annex, within the current Naval Media Center building. The building is undergoing significant renovations as this is written to accommodate its new role. When the renovations are complete, the Housing Program Management business line will move to Anacostia — the first time since the 1960s that military housing program management is not a part of NAVFAC.

While these are big changes, the results will be much more effective management and efficient execution of shore facilities programs. The alignment of NAVFAC with CNI, Marine Corps and with the Navy Regions is a key factor in improving shore installation readiness. My challenge to NAVFAC is to help lead this change and search out more ways to help improve our contribution to the Navy. Bottom line: CNI needs to be a success story while we enhance our products and services to all our other clients.

BOB HOPE 1903-2003

We look forward with each new magazine to the opportunity to give you good news and useful information about our corps and our work. Sadly, this issue of *NCE* is distinguished by a number of unhappy news items, some of which you may already know about in one form or another.

After a 100-year engagement as a top-bill kind of star, entertainer Bob Hope died July 27 at his home in California. Hope was a consummate actor, comedian and all-around entertainer, not least of whose audiences included legions of Seabees among hundreds of thousands of appreciative military members. Many Seabees formerly involved in the establishment of the U.S. Navy presence on Diego Garcia will recall the 1972 Bob Hope Christmas Show that touched down there that year. Mr. Hope will be missed.

Our "Seabee mom," Vicenta Chargualaf Peredo — Seabee Betty — died June 9 on Guam. Seabee Betty will be fondly remembered by thousands of her Seabee-Sailor shipmates, Marines and Airman around the world, whom she befriended on Guam over 50-plus years. She is only the second civilian (the first being actor John Wayne) inducted into the Seabee Museum in Port Hueneme. Seabee Betty was buried in the Guam Veterans Cemetery surrounded by family, friends and the Seabees who loved her.

The Civil Engineer Corps was recently struck by the untimely passing of CAPT Kenneth Patrick Butrym, CEC, USN, 46, who died June 26 in Port Hueneme, Calif. He had only recently assumed command of the Public Works Center in Norfolk and he was the regional engineer for the Mid-Atlantic Region. Our hearts go out to Ken's family, friends and colleagues.

One of NAVFAC's earliest leaders — in fact, its first Vice Commander and only its second Commander — RADM Walter E. Enger, CEC, USN (Ret.) died June 27 at age 89. RADM Enger took the reins of our enterprise in 1969 at a time, then as now, of change. His great vision and extraordinary leadership took NAVFAC to the next level.

We learned one of the former leaders of this magazine, Les Helsdon, passed away Nov. 26, 2002, at age 78. Les was a longtime Navy writer and editor who had amassed a breathtaking 32 CHINFO Merit Awards from the Navy Chief of Information. His willingness to help Seabee writers and photographers was legendary and his legacy lives on in these pages today.

Finally, with the superlative work conducted in *Operation Iraqi Freedom*, Seabees everywhere have a distinct right to feel pride of accomplishment. But we all know the first day we pull on those CUUs that our profession knows risks unique to itself.

So it was with great sadness that we learned of the death in Kuwait June 6 of 21-year-old Builder 3rd Class Doyle W. Bollinger, of Naval Mobile Construction Battalion 133. Bollinger, in the Central Command AOR in support of OIF, was killed when unexploded ordnance accidentally exploded in an area where he was working.

Our best wishes go out to his family, friends and shipmates.

Michael R. Johnson
Rear Admiral, CEC, USN
Chief of Civil Engineers
Commander, Naval Facilities Engineering Command

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NCE is the official publication of the U.S. Navy Civil Engineer Corps, active duty and reserve, celebrating 136 years of proud service.

NAVFAC Naval Facilities Engineering Command

Bronze Star Awarded to LCDR Byron M. Hudson, CEC, USNR

RADM McGarrah pins the Bronze Star on LCDR Hudson.

MCB CAMP LEJEUNE, N.C. — LCDR Byron M. Hudson, Alpha Company Commander for Naval Mobile Construction Battalion (NMCB) 14, was awarded the Bronze Star Medal by RADM James McGarrah, Deputy Commander, First Naval Construction Division, in a field awards ceremony April 2.

During *Operation Enduring Freedom*, from Dec. 26, 2001, to Aug. 5, 2002, Hudson's meritorious service directly impacted the success of combat operations in the tactical area of responsibility.

While assigned as the Coalition Forces Land Component Command's (CFLCC) airfield construction officer, he was responsible for conducting assessments of five forward operating bases in Afghanistan, Pakistan and Uzbekistan.

As CFLCC's recognized expert on airfield construction and maintenance, he personally crafted successful repair courses of action and briefed senior leadership regarding the maintenance and repair of mission critical airfields at Kandahar and Bagram, Afghanistan.

His efforts in identifying needed forward operating base perimeter defensive improvements resulted in the identification of vulnerabilities, which were addressed directly by the Commander of the Task Force Rakkasan, 101st Airborne Division, Kandahar.

This effort greatly improved the defensive posture of this forward operating base. On his own initiative, he followed up on the vulnerability team assessment by developing a $1.4 million military construction program for security improvements at a classified airfield location in the CENTCOM AOR. This effort is now scheduled for funding and execution.

During February 2002, Hudson led a joint CFLCC/U.S. Army Corps of Engineers mission to assess and develop repairs to the Pasni Air Base, Pasni, Pakistan.

This high-visibility project required him to assess damage caused by U.S. aircraft, develop a complete repair scheme and brief six flag officers, including those from the Pakistani Air Force. This project is now moving toward construction and is vitally important to future Pakistani military relations.

During April 2002, Hudson was instrumental in assisting coalition partners in developing defenses of Khowst Airfield. His insight and recommendations resulted in a reorganization of the perimeter defended by Canadian infantry and U.S. Army special forces.

He was also personally responsible for the development of estimates of long-term construction improvements to airfields at Kandahar and Bagram, and Karshi Khanabad, Uzbekistan.

When conventional repair methods failed at Bagram Airfield in July 2002, Hudson researched, selected and pressed for an innovative repair solution, using a proprietary product and troop labor.

Expeditious repairs, completed in a previously unheard of timeframe of days versus weeks, allowed continued flights of Air Force A-10 "Warthog" attack aircraft and other fixed-wing close air support. Without Hudson's expertise, tenacity and skill, COMCFLCC and CJTF-180 would have had to shut down airfield operations. His accomplishment had a singular significant impact on continued conduct of combat operations and close air support.

CDR John Prien, CEC, USNR, commanding officer of NMCB 14 said, "The men and women of NMCB 14 are very proud of LCDR Hudson and what he accomplished while mobilized in support of *Operation Enduring Freedom*. All of his accomplishments were made in harsh conditions in areas under the threat of attack. He is a credit to the Civil Engineer Corps, the Navy Seabees and to NMCB 14."

Executive Order 9419 signed Feb. 4, 1944 by President Franklin D. Roosevelt, established the Bronze Star Medal "with accompanying ribbons and appurtenances, for award to any person who, while serving in any capacity in or with the Army, Navy, Marine Corps, or Coast Guard of the United States on or after Dec. 7, 1941, distinguishes, or distinguished, himself by heroic or meritorious achievement or service, not involving participation in aerial flight, in connection with military or naval operations against an enemy of the United States."

From left: William Crossman, President of Atlantic Wood Industries; James W. Holley, Portsmouth Mayor; Karen Sismour, Waste Division Director, Virginia Dept. of Environmental Quality; RADM David Architzel, Commander Navy Region Mid-Atlantic; RDML Michael Loose, LANTDIV Commander; Russell Chantry, Director, NNSY Occupational Safety, Health and Environmental Office; Marjorie Mayfield, Executive Director, Elizabeth River Project; and Donald Welsh, Region III Administrator, Environmental Protection Agency.

Joint Superfund Clean-up in Norfolk is a Template for Government/Industry

STORY BY JOHN PETERS AND STEVE MILNER

PORTSMOUTH, Va. – A unique groundbreaking ceremony March 18 marked an important partnership between the federal government and private industry, who are working together to clean up a commingled Superfund site.

The partnership comes after years of debate about contamination on adjoining properties along the Southern Branch of the Elizabeth River in Portsmouth, Va., which belong to the Norfolk Naval Shipyard (NNSY) and Atlantic Wood Industries Inc. (AWII). Contractor company CH2M Hill, a civil consultant, joined Shaw Remediation and Infrastructure, the Navy, state and federal regulators in the landmark joint resolution to address commingled contamination at the two sites.

Both sites have been designated as Superfund sites under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA).

Issues at the sites, located just outside the NNSY gate, include calcium hydroxide, abrasive blast material, metals, polycyclic aromatic hydrocarbons, treated-wood wastes and inert construction debris, all byproducts of shipyard operations and AWII's former wood treatment operations.

NNSY and AWII, along with the Naval Facilities Engineering Command Atlantic Division (LANTDIV), Navy Region Mid-Atlantic, the Environmental Protection Agency (EPA) and the Virginia Department of Environmental Quality were active participants in planning for the action. They will provide oversight on the work.

The NNSY Restoration Advisory Board, the Virginia Institute of Marine Sciences and the private Elizabeth River Project also participated. CH2M Hill did the site assessment under a Comprehensive Long-term Environmental Action Navy (CLEAN) contract and Shaw Remediation and Infrastructure will clean up both sites.

Engineered wetlands will be created in the areas of the calcium hydroxide sludge excavation. The wetlands grasses were planted before mid-June to optimize the growing season. The abrasive blast material disposal area will be capped. The cap area is located west of where the engineered tidal wetland will be. The contractor will cap this area with an EPA-approved impermeable layer late this year, after the engineered wetlands are planted, and is scheduled for completion in early 2004.

According to Mike Host of the Norfolk Naval Shipyard Environmental Division, the benefits of this breakthrough joint-responsibility project will extend far beyond the boundaries of this site.

"The relationship forged between the partners will be a foundation for success in future projects not yet started," he said.

"It will demonstrate in a very real way what people and organizations, working together, can accomplish. That's the real power of a project like this," Host said, "its potential to inspire others to take on new challenges and achieve new successes that exceed anything we currently expect."

Expressing approval of the new project, RDML Michael Loose, LANTDIV commander, said a workable solution was possible because of the representatives from various organizations, with different missions but with the same objective, worked together on the long-standing problems at the shipyard site.

"The fact that we're here today says a lot about the partnership and cooperation that has developed as this team worked through some very complex issues," Loose said, adding that the agreement resulted in several firsts.

"This was the first time we have developed an integrated solution to address commingled contamination at a combined federal and commercial site; this was the first time project settlement funds were provided by the Department of Justice up front rather than through after-the-fact litigation; and this was the first time we have used a single contractor when there were multiple funding sources and responsible parties."

EPA Regional Administrator Donald S. Welsh said the Elizabeth River will no longer be threatened from significant amounts of contamination, thanks to the innovative agreement between EPA, the Navy and AWII.

"This is an excellent example of the Superfund law's flexibility, and EPA applauds our partners for their cooperation in reaching a sound solution to a complex environmental problem," Welsh said.

Here's how Seabees from NMCB 74 became the Navy's

WEAPONS OF MASS CONSTRUCTION

STORY BY JO1 STAN TRAVIOLI AND JO2 (AW) TRACI FEIBEL
PHOTOGRAPHY BY PH1 BRIEN AHO

Beginning in the early days of October 2002, the Seabees of Naval Mobile Construction Battalion (NMCB) 74 arrived in Kuwait to undergo a 90-day concrete placing project in support of *Operation Enduring Freedom*.

Working non-stop, the Seabees constructed a 12-inch-thick aircraft parking apron nearly 20 acres in size — the largest Seabee concrete placing project since World War II.

What was once an open stretch of sand across a portion of a jointly owned U.S. and Kuwaiti Air Force base is now a critical parking apron for fighter jets traveling between the sea and combat scenes.

"We worked literally around the clock for 84 days," said NMCB 74 Commanding Officer CDR Cliff Maurer. "In the first 60 days, the only day the troops had the whole day off was Christmas Day. Our Christmas holiday lasted just 18 hours — similar to a typical workday for Seabees on deployment — although this particular job site was running 24 hours a day, seven days a week."

The Seabee crews had to move nearly one and a half million cubic feet of earth. Some portions of the concrete pad had to be raised more than six feet to make it level, but the earth leveling work had to be done six inches at a time.

In a laborious process, the Bees placed fill material, rolled it flat, checked it for the proper compaction and then moved on to place another six inches.

"We collapsed the local market's fill material," said Chief Builder (SCW) Wayne Jensen, one of the site's foremen.

The local concrete makers couldn't keep up with the Seabees, either. The four local companies hired would bring as much product as they could each day, but it was never enough.

"We poured as much as they supplied," said Jensen.

"At one point, we actually had some down time because they just couldn't bring us the material as fast as we could place it," Chief Builder (SCW) Ray Roberts echoed.

Working non-stop through dust storms, rainstorms and extreme desert winter with bone-chilling temps, the Bees completed the largest single-battalion construction project executed in the last 30 years.

Exceeding a battalion's normal tasking for a full six-month deployment, the project was completed in a true Seabee fashion — using only a third of a normal-sized battalion and in half the time.

Opening the pad to the Marine Corps attack jets, a ribbon-cutting ceremony was held and attended by RADM Charles R. Kubic, Commander First Naval Construction Division and the First Marine Expeditionary Force (I MEF) Engineer Group (I MEG), accompanied by numerous Kuwaiti dignitaries,

"That made it all worthwhile, when the first F/A-18 'Hornet' pulled onto the pad," beamed Jensen.

The fighters now had a place in a vital location to touch down or park for a day's rest during theater flight ops, proving Seabees continue to follow their tradition: building something from nothing, with heart and sweat.

Engle selected for flag rank

CAPT Gary Engle has been selected for Rear Admiral (lower half). Currently, Engle is the Chief of Staff at the First Naval Construction Division. Prior to that position, he was the commanding officer of NAVFAC Southwest Division in San Diego and the operations officer at the NAVFAC Atlantic Division.

He was commissioned an Ensign in the Civil Engineer Corps in May 1978. A native of Painesville, Ohio, Engle earned a bachelor of science degree in civil engineering from Cleveland State University. He later earned a master's degree in civil engineering from the University of Michigan in 1983.

Engle's Pacific-area duties included the Public Works Center Guam, as the Production Engineering Department head, and the former Naval Construction Battalions, U.S. Pacific Fleet, as the officer in charge of Seabee camps in the Pacific, where he executed an unprecedented $60 million of construction.

In 1994, he was named the Naval Facilities Engineering Command Pacific Engineer of the Year.

Engle is a Registered Professional Engineer in Ohio. He is a Seabee Combat Warfare officer and a member of the Navy's Acquisition Professional Community.

Council Honors NAVFAC for Safety Milestone

Zero is the number safety professionals shoot for. Naval Facilities Engineering Command (NAVFAC) notched a zero in fiscal year 2002 — completing the year with no contractor fatalities. For that achievement, covering 42 million work hours, Naval Safety Council Vice President Chuck Hurley presented the command with the Council's Award of Merit during a ceremony at NAVFACHQ on April 18.

"To achieve this kind of extraordinary level of safety is exactly what the world of work is supposed to do," Hurley said during the presentation of the plaque at the Washington Navy Yard.

NAVFAC manages the planning, design and construction of U.S. Navy shore facilities worldwide, administering construction contracts worth $3.2 billion in 2002.

RADM Michael R. Johnson, Commander NAVFAC, who accepted the Award of Merit, called the achievement a "huge stake in the ground for future performance."

Johnson told military and civilian employees and officials assembled for the event that zero always must be the goal of safety. "We need to focus on zero lost-time accidents, zero near misses. If you catch it early, nip it in the bud, the rest comes by itself. We need to replicate that success each and every year," Johnson said. "We must continue to be vigilant in our efforts to maintain an outstanding safety record and keep all personnel aware of the inherent hazards in and around construction sites."

Giorgione named new PACDIV Vice Commander

PEARL HARBOR – CAPT Michael A. Giorgione reported to PACDIV June 9 to become the new vice commander, replacing CAPT Paul Kuzio. Giorgione comes to PACDIV from Public Works Center Pearl Harbor, where he served as the executive officer.

Kuzio, the vice commander since July 2002, reports to his new assignment at Atlantic Fleet.

A native of Pittsburgh, Pa., Giorgione earned a bachelor's degree in ocean engineering from the U.S. Naval Academy in 1981 and a master's degree in civil engineering in 1988 from Pennsylvania State University. He is a graduate of the Defense Language Institute (Italian) in Monterey, Calif.

Giorgione's initial assignment was with the Seabees in Naval Mobile Construction Battalion 133. His following tours included Assistant Resident Officer in Charge of Construction (ROICC) Subic Bay, Republic of the Philippines; Public Works Officer and ROICC, La Maddalena, Sardinia, Italy.

Other tours included Seabee Rating Assignment Officer, Bureau of Naval Personnel; Base Readiness Analyst, N81 Program Appraisal Division, Chief of Naval Operations; ROICC Southwest Division, Naval Facilities Engineering Command, San Diego, Calif.; and Commanding Officer, Camp David.

Giorgione is qualified to wear the Seabee Combat Warfare pin. He is a registered Professional Engineer in the Commonwealth of Pennsylvania and a member of the Acquisition Professional Community.

His personal awards include Legion of Merit; Meritorious Service Medal (three awards); Navy Commendation Medal; Joint Service Achievement Medal; and two Navy and Marine Corps Achievement Medals.

Hangar Time

NAS Brunswick hangar upgrade program roars forward

Artist's conception of the new Hanger 6 at NAS Brunwick.

JAMES N GRAY COMPANY

BRUNSWICK, Maine — With a groundbreaking ceremony April 28 for Aircraft Maintenance Hangar No. 6, Naval Air Station Brunswick, Maine, passed a milestone in its base master plan.

The ceremony featured Maine Governor John Baldacci and U.S. Congressman Rep. Tom Allen (D-Maine), who joined CAPT Robert Winneg, commanding officer of NAS Brunswick, CAPT Robert Raines, commanding officer of Naval Facility Engineering Command Engineering Field Activity Northeast, Chaplain CAPT John Wohlrabe and James Gray of contractor James N. Gray Company.

The construction of the hangar and an airfield support building will cost an estimated $31.4 million.

The hangar, which will cover the area of almost four football fields, was specifically designed to support Patrol and Reconnaissance Wing 5; the NAS P-3 Orion aircraft squadrons; the station's search and rescue helicopters; transient aircraft and aircraft support personnel from the squadrons' operational maintenance departments.

It will also accommodate office and maintenance space of 700 squadron personnel.

The support building was designed to also include the Public Works Transportation Department and associated equipment used to maintain aircraft runways in the diverse and sometimes harsh weather conditions encountered in Maine over the year.

Hangar No. 6 will be the first "design-build" hangar built for the U.S. Navy; NAVFAC's "design-build" program awards a facility design and construction to a single prime contractor for improved efficiencies.

The Brunswick hanger project is the largest and most expensive building constructed along coastal Maine. It's the first new hangar in more than 20 years for the veteran base and it replaces two aging "temporary" World War II hangars that were built with timber trusses in support of the war.

"Hangar 6 ushers in the ability of the Navy, and this base, to accommodate any one of several possible follow-on aircraft to the venerable P-3 Orion, the aircraft that has graced Maine skies for over 40 years," said Winneg.

According to Rep. Allen's spokesman, Mark Sullivan, Hangar 6 is critical to NAS Brunswick and its mission, because they "play a vitally important and irreplaceable role in our nation's security."

NAS Brunswick is the last active duty military airfield remaining in the northeast, and it neighbors great-circle air and sea routes on the North Atlantic.

The new structure serves to ensure that maritime patrol aircraft will be safely maintained, out of the elements, for decades to come.

James N. Gray Company proposed a unique design for the hangar. Two 80-foot-high box trusses enable two continuous spans in excess of 380 feet. They will become the first long-span truss hangar owned by the Navy.

The design permits maximum flexibility and allows for changes the future may hold for follow-on airframes of a multi-mission maritime aircraft other future mission tasking.

US NAVY PHOTO

Plunging the classic ceremonial shovels into the ground at the hanger construction kickoff are (from left) LT Keith Benson, senior AROICC/project manager; CAPT John Wohlrabe, chaplain, NAS Brunswick; James Gray, vice president of James N. Gray Company: CAPT Robert Winneg, commanding officer NAS Brunswick; Maine Governor John Baldacci; CAPT Robert Raines, commanding officer EFANE; Congressman Tom Allen (D-Maine 1st District); LCDR Mike Oestericher, ROICC.

Navy Lab Sets Record for Reynolds Numbers

At the U.S. Navy's William B. Morgan Large Cavitation Channel (LCC) in Memphis, Tenn., hydrodynamic experts have produced and measured two-dimensional flows at Reynolds Numbers up to 20 times higher than any previously achieved in a laboratory.

The Reynolds Number is among the most important non-dimensional parameters characterizing fluid flow. It combines the speed of the flow, size of the model or prototype and viscosity and density of the fluid. A classic challenge in the laboratory is getting sufficiently high Reynolds Numbers to adequately represent full-scale flows.

Carderock Division's Hydromechanics Directorate cooperated in two test programs with the University of Michigan's Mechanical Engineering Department using Office of Naval Research and Defense Advanced Research Projects Agency funding. One experiment made measurements on a National Advisory Committee for Aeronautics cambered foil with a 10-foot span and seven-foot chord weighing 14,000 pounds. Variations in trailing edge shape were incorporated. Lift on the bronze foil at a flow speed of 35 knots exceeded 150,000 pounds. The Reynolds Number of approximately 55 million is about 20 times greater than that for foil shapes in published literature.

The second and different experiment made detailed boundary layer and shear stress measurements on a 10 by 40-foot flat plate. The test involved both single-phase flow and flow with the injection of air microbubbles to study frictional drag reduction.

Reynolds Numbers based on downstream length in this experiment were as high as 320 million and more than three times greater than similar measurements reported in the pertinent scientific literature.

The LCC can simulate close to full-scale fluid effects in a boundary layer to provide understanding of the actual friction drag on a hull and potential ways to reduce it. Reducing drag either increases a vessel's range or speed, or reduces fuel costs.

Concrete gets second use at Naval Station Norfolk

Naval Station Norfolk has found a new way to save money and materials.

Sustainable-design recycling, a concrete recycling effort, is a joint venture between NAVFAC Atlantic Division (LANTDIV), Resident Office in Charge of Construction (ROICC), Public Works Center (PWC) and Naval Station Norfolk.

At the beginning of January, the base had approximately 100,000 tons of concrete rubble. So far, an estimated 34,000 tons has been recycled and allocated for various construction projects. Debris crushing is scheduled to be complete by October. Officials plan to have all recycled material used by December 2004.

"It makes great business sense to reuse as many products as possible within our own fence line," said CAPT Jerry Becker, Naval Station Norfolk commanding officer.

Much work goes into recycling of concrete debris. First, large chunks of concrete are crushed into basketball-size pieces with an impact hammer. Then the reinforcing steel rods, or "rebar," are removed. After all the large pieces of rebar are removed, a magnet is used to get out the remaining steel.

Finally, depending upon how the recycled concrete will be used, it may be crushed into smaller pieces. A large crushing machine, equipped with various-sized screens, sorts out the different sizes.

There are essentially three different uses for the recycled concrete. It can be used as rip rap, field-stone sized pieces of concrete used to fortify coastline from erosion; base material, which can give a structure a firm footing; and as fill to bring up ground level to desired construction height.

According to Keith Barbish, LANTDIV project manager, sustainable-design recycling will save the Navy approximately $2 million, help the local environment, reduce wear and tear on Naval Station Norfolk roadways and ease installation traffic congestion.

By recycling the concrete, the Navy doesn't incur the cost of removing the debris to a landfill. As an added benefit, there will be less large truck traffic on base because the debris won't have to be hauled across the base.

A large portion of the projected $2 million to be saved by the Navy comes from not having to pay some material costs needed for installation construction projects. Using some of the recycled concrete in recent projects has already saved money.

The sustainable-design recycling program also benefits the environment by reducing or eliminating base contributions to the local landfill. Even more beneficial, some of the recycled concrete will be used by the Virginia Marine Resources Commission to construct artificial oyster reefs and fisheries.

"The concrete crushing and recycling program has not only saved Naval Station Norfolk a small fortune in disposal cost, but provided a quality base product for airfield repairs and other construction projects," said Becker.

— JO3 Tarl Chapman

2002 Southwest Division Engineer of the Year Award

Bipinkumar Patel, a NAVFAC Southwest Division senior environmental engineer, was named 2002 Southwest Division Engineer of the Year during a ceremony June 16 in San Diego.

A Southwest Division engineer since March 1992, Patel leads a multidiscipline Navy environmental team serving Marine Corps Base Camp Pendleton, directing all technical work in support of the underground storage tank remediation program at the 125,000-acre installation.

Aggressively spearheading technological innovation within this multi-year, $100 million program, Patel developed diverse engineering approaches in partnership with Camp Pendleton.

His technical leadership was instrumental in advancing environmental cleanup by routinely exceeding technical objectives and program milestones. His comprehensive, technologically and economically sound program removed thousands of tons of hydrocarbon contamination from soil and groundwater.

Through aggressive technical employment and schedule efficiencies, his team easily created more than $1 million per year in cost avoidance, while achieving unsurpassed credibility and responsiveness to regulators.

Company chosen for Military Housing Venture in San Diego

In May, the U.S. Navy selected Newport Beach-based Lincoln/Clark LLC, a Southern California property management and construction partnership, to build, renovate and manage 3,302 military housing units in San Diego County.

This is only the latest NAVFAC Public/Private Housing (PPV) effort to improve the quality of housing for military families in San Diego. The estimated cost of the private-sector construction is $240 million.

"This housing public/private venture will make high-quality, energy-efficient, well-managed, affordable housing available to military families in San Diego," said Tony Megliola, PPV team leader for the project.

This is the second joint venture in which the Navy has partnered with Lincoln/Clark LLC to privatize military family housing in San Diego. The first was construction of military family housing at the former Naval Training Center, San Diego.

The new project will privatize existing units located at four locations in San Diego. Those locations are Admiral Hartman in Pacific Beach, Murphy Canyon Heights in Tierra Santa, Gateway Village located on Barnett Avenue across from the Marine Corps Recruit Depot, and four homes located onboard the Marine Corps Air Station Miramar.

The work includes renovating 992 homes at Murphy Canyon and another 76 homes at Admiral Hartman area. The Gateway Village neighborhood will be completely demolished and replaced with 460 new, state-of-the-art townhomes. The architectural design for the new Gateway Village neighborhood will be similar to those currently under construction at the former Naval Training Center San Diego.

Retired CEC Officer Lauded by ASCE

CAPT Q.E.D."Tex" Lewis, CEC, USN (Ret.) was awarded the Zone IV Citizen Engineer Award for 2002 by the American Society of Civil Engineers. The award recognizes his contribution to community-based involvement and enhancement of civil engineering's image.

Zone IV includes 10 western states including Alaska and Hawaii.

The award considered his work in building a nature trail through the middle of Silverdale, Wash., using students and Boy Scouts, and his work on the Community Council and in urban planning. The award was presented April 8 during a ceremony in Sequim, Wash.

Lewis retired in 1988 as Commanding Officer, CBC Gulfport and has remained active in consulting and volunteer work.

PACDIV Takes 2003 Air Force Agent of the Year Honors

For the second time, NAVFAC Pacific Division edged out other agencies worldwide to win the 2003 Air Force Agent of the Year award in the Design Agent category. After being honored as Pacific Air Forces (PACAF) Design Agent of the Year last October, PACDIV moved on to become the top pick for the entire Air Force.

A representative from PACDIV accepted the national award in Washington, D.C., in August.

"Congratulations to everyone who contributed to the success of our Air Force program resulting in this notable recognition," said Clyde Morita, director of the Design Division and chief engineer. "It goes to show that the Design and Project Management [DPM] Department provides first-class professional service."

PACDIV DPM was recognized for meeting the Air Force's design milestones. For example, the division provided accelerated designs for two FY-02 military construction projects: the $5.6 million Security Forces Operations Facility and the $4.3 million War Readiness Material Storage, both at Andersen Air Force Base.

The designs were completed in the second quarter for FY-02, facilitating the construction contract award in the fourth quarter.

PACDIV excelled in its commitment to keep costs within budget and meet schedules. In addition to completing the modified design of the Security Forces Operations Facility in six months, PACDIV completed the design for a FY-03 Fitness Center at Andersen within 10 months. PACDIV reduced lost design effort with its efficient and comprehensive design processes.

PACDIV's pioneering use of a modified design-build delivery strategy has shown outstanding success in obtaining best value and maximum contractor involvement for the best price, while ensuring specific user requirements are appropriately addressed.

Mayport Housing Keeps a Watch for Protected Sea Turtles and Babies

Conservation efforts are underway at Naval Station Mayport, Fla., to protect sea turtles nesting on the beaches, according to Claire Mikko, Mayport Housing Director.

"We provide a sea turtle flyer in all of our visitors quarters rooms. Once the guests read the flyer and learn how few survive, they join the employees in becoming cheerleaders for the little guys," Mikko said.

Lighting is especially important, because lights from nearby buildings may confuse the onset of sunrise for the turtles. Sunrise is how the babies know which direction to crawl to find the sea.

Guests and residents are asked to keep their shades shut at night so that lights from rooms do not spill out toward the beach. They are also asked to avoid walking on the beach after sunset.

"When our buildings were renovated, the sea turtles were taken into consideration, as well," Mikko said. "We installed lower-wattage light fixtures outdoors and have the lights pointed toward the ground and not toward the beach."

Florida beaches account for one third of the world's total population of Loggerhead turtles, a threatened species. They nest on the shore and are easily confused and frightened away by lights, movement and loud noises. Often, only three of 1,000 hatchlings survive to adulthood.

NAVFAC Names Prestigious Manager of the Year Award in Honor of Former Atlantic Division Employee

NAVFAC HAS NAMED its Fleet Manager of the Year Award in honor of Robert V. Ronick, a former long-time Atlantic Division Employee.

Ronick died in Japan in September 2002 while serving as the Transportation Director for PWC Yokosuka.

The award is presented annually to the civil engineer support equipment fleet manager who embodies the skills, professionalism and *"Can do!"* attitude required for excellence in fleet management.

"Naming this award after Robert sets a measurable standard for future fleet managers to uphold," said Lisa Bernier, Transportation Equipment Management Center director.

Ronick started at LANTDIV in the intern program in April 1989, and left in early 1999 to take a lateral position as the assistant Transportation Director at PWC Yokosuka. He was promoted to Transportation Director In 2002.

Extraordinary Response Marks NAVFAC Survey

The NAVFAC Facilities Team Survey (FacTS) was administered to almost 15,000 employees and 4,000 clients during May-June 2003. This is the first time that all NAVFAC components have participated in a single survey process.

The command survey received extraordinary feedback — with responses from 69 percent of the workforce and 48 percent of clients.

Based on a satisfaction grading scale of 1 through 5, the NAVFAC overall satisfaction score was above average with a 3.5 score from employees and 3.7 from clients. The results were briefed to the NAVFAC Executive Steering Group and to all commanders and commanding officers in July. Activity level results are available now on the survey website, and all survey results will be posted by late August.

Each NAVFAC component has its own FacTS Coordinator who will work with their local command to release passwords for employees to access local data. RADM Michael R. Johnson, Commander NAVFAC and Chief of Civil Engineers, taped a FacTS webcast that "aired" in late August. The webcast addressed survey results and follow-up actions. In addition, RADM Johnson will send an e-mail to clients advising them of pertinent survey results.

Check out the full story at **http://factssystem.navfac.navy.mil** for additional information.

— Donna K. Tierney

Housing rejuvenated on Ford Island

Project part of larger island revitalization

Sitting in the middle of Pearl Harbor is Ford Island — arguably best known for its history and role in the surprise attack on the U.S. on Dec. 7, 1941. An exciting new chapter for this National Historical Landmark was started when military, community and business leaders all gathered on the Battleship Missouri July 3 to look toward the island's future.

Among the distinguished visitors were U.S. Senator Daniel Inouye (D-Hawaii); U.S. Congressman Rep. Neil Abercrombie (D-Hawaii); Adm. Walter F. Doran, Commander U.S. Pacific Fleet; RADM Barry McCullough, Commander Navy Region Hawaii and Commander Naval Surface Group Middle Pacific; RDML (sel) Richard Cellon, Commander NAVFAC Pacific Division (PACDIV); Chris Hunt, Hunt Building Company, Ltd.; and Ronald Oakley, Fluor Corporation. They signed an agreement to revitalize Ford Island through a Navy and private development partnership.

Under the multi-million dollar Ford Island Master Development Agreement (MDA), the Navy will sell or lease outlying properties on Oahu and, in turn, Fluor Hawaii LLC will construct utilities on Ford Island and renovate the historic theater into "adaptive reuse" for a new conference center to be run by the Navy. The collective value to the Navy is approximately $84 million.

Navy Region Hawaii Commander RADM Barry McCullough, U.S. Pacific Fleet Commander Adm. Walter Doran, and U.S. Sen. Daniel Inouye (D-Hawaii) sign the symbolic document that marks the start of the major development of Ford Island.

The Navy turned over more than 1,000 acres of land by selling or leasing property on Ford Island, Iroquois Point, Barbers Point, Waikele Naval Magazine and Halawa Landing. In addition, more than 2,000 homes located on Barbers Point and Iroquois Point/Puuloa Housing will now be privately operated by Fluor Hawaii.

These homes will be open to both military and civilian residents, but according to Doug Wright of Hunt Building Company, they will offer military members rental rates at or below common Basic Allowance for Housing (BAH) rates. Approximately 500 units affected by the development currently have military members and their families residing in them.

Fluor will lease 675 acres at Barbers Point with 548 housing units for three years followed by a conversion to what's called "fee ownership." This means upon conclusion of the lease, Fluor will own the property and the housing assets. They will also lease 515 acres at Waikele with 120 storage facilities for five years followed by a conversion to fee ownership.

For the next 65 years, Fluor will also lease 34 acres on Ford Island, 6.6 acres at Halawa Landing, and 390 acres at Iroquois Point/Puuloa (including 1,463 housing units). The potential also exists to support any future visitor attractions with a site at Halawa Landing, the area between the Arizona Memorial Visitor Center and the USS Bowfin Submarine Museum and Park. The location could be related to possible development of a visitor attraction on Ford Island.

Fluor Federal Services and the Hunt Building Company partnered up to form Fluor Hawaii LLC. In the agreement, Hunt is responsible for building and maintaining the actual housing assets.

After some of the new infrastructure is in place, Hunt plans to construct additional housing on their leased parcel on Ford Island. The Navy opted for a "medium-intensity" development plan on the island, which limited construction to no more than 430 homes.

The new housing will be separated into two communities each on a 16-acre plot. One set will include 300 two-bedroom apartments while the other will consist of 130 two-story townhouses with two- or three-bedroom units. Although not an immediate project, Wright expects housing construction to start within a few years.

Currently, Hunt is rather more concerned with the needs of service members and their families in existing housing now operated by Fluor Hawaii.

"Our top priority is to take care of the people in there now," said Wright.

— JO2 Tim Walsh

For moving troops and gear ashore safely, quickly and in mass quantities, the Navy's innovative Elevated Causeway System/Modular is the

GOLD STANDARD

Story and Photography by JOC(SEL) Joseph Krypel

CAMP PATRIOT, Kuwait — In the minds of many here, the real "shock and awe" that will be most remembered from *Operation Iraqi Freedom* wasn't from any air campaign or the huge televised explosions causing destruction to enemy troops and secret military headquarters. Instead, the sharpest memories will be of the awesome off-load and back-load of thousands of Marines and the tons of fighting equipment and ammo meant to supply all American military services.

In what is being called the largest amphibious operation in the history of the United States, Camp Patriot, a "purple suit" joint-service, multinational base camp constructed in Kuwait by amphibious Seabees, was a key contributor to bringing the fight to Iraq — and then it will help bring our people and equipment out again.

The methods and means of moving troops and supplies in any war zone are varied, but one of the primary tools built and used for this mammoth effort is the Navy's innovative Elevated Causeway System/Modular, or ELCAS/M, which is owned and operated by Amphibious Construction Battalion (ACB) 2, homeported in Little Creek, Va.

The ELCAS/M is an extraordinary blend of ingenuity and engineering, designed to support large cargo off-loads in areas where no pier facilities exist or, as in the case of Camp Patriot, where facilities or scheduling of movement need to be enhanced with additional resources. It's an expeditionary pier that bridges the surf zone, providing a crossing point between lighterage, cargo vessels and the beach.

Used previously only in exercises, the "portable pier" is in a war operation for the first time, supporting combined-service Joint Logistics Over The Shore (JLOTS) operations.

"This is pretty monumental," explained LCDR Timothy Cowan, operations officer of ACB 2. "This is the first time that the system has been put into use for a wartime operation, and as importantly, it was the effort of all the PhibCBs that made it a reality."

Cowan explained that while the ELCAS/M is an asset of ACB 2, it was constructed in a joint effort with ACB 1, homeported in Coronado, Calif. >>

"We have trained together for years, and while we may own it, this was a *Seabee* project — not an east or west coast project," Cowan said.

The Navy has only two hard-working Seabee outfits responsible for amphibious construction, one on each coast of the US — and both were at Camp Patriot, Kuwait.

ELCAS/M construction began April 1 and the 1400-foot pier was completed April 18. Among busy beaches and across limited real estate, crews of 48 Seabees per shift were hindered by equipment and weather delays, yet the "Combined *Can Do!* Gator Bee Team" still managed to complete its work three days ahead of schedule.

The ELCAS/M is capable of a 3000-foot pier length and has a roadway spanning 24 feet. It features two 175-ton cranes, two tractor-trailer turntables and lighting for 24-hour operational capabilities.

Structural support is provided by 24-inch steel piles that come in 30-foot-long pieces. The piles are welded together, then driven into the ocean floor until they reach a sufficient depth to support the load-bearing capacity.

According to Chief Steelworker Charles Bailey, the project's leading chief petty officer, the soil survey at the ELCAS/M site disclosed the ground was very yielding.

"Because the soil was so soft, we had to use much longer lengths of pile than we're routinely used to," explained Bailey. "All the piles used were more than 76 feet long, and some used were as long 95 feet."

The pier can accommodate three-wide and five-wide barge ferries, as well as Army and Navy Landing Craft Mechanized (LCM 8) vessels, Landing Craft Utility (LCU) vessels and Logistics Support Vessels (LSV).

The causeway roadway and pierhead are capable of handling heavy-hauling truck traffic in both directions at once. Cargo throughput is managed on both sides of the expeditionary pier.

According to Chief Equipment Operator Ricardo Hernandez, one of two safety officers assigned to the project, preparation and construction of the unique ELCAS/M was completly incident free.

"The site itself had to be inherently safe," commented Hernandez, an ACB 1 crew member. "Everyone had to know the job, the safety aspects and what precautions were necessary to achieve this tasking safely. Everyone worked together to ensure that adequate safety precautions were continuously taken. We're proud of everyone's 'safe-thinking' work ethic."

Even prior to the pier's completion, busy Navy barge ferry operations had moved more than 1500 containers in-stream, while Camp Patriot personnel off-loaded more than 15,000 containers and pallets that were pushed forward to the fight.

It was expected that thousands more containers containing military supplies and equipment would transit the remarkable ELCAS/M, while the "single-service" team — without regard for the military branch ID tape on a uniform — continuously provided the support to bring *Operation Iraqi Freedom* to its eventual end.

Nearly 2500 active duty and reserve Sailors, Soldiers, Marines, Airmen and Coast Guardsmen worked at Camp Patriot at different times — but providing leadership as well as the means to expedite the process were the hard-charging "ACBees" of the U.S. Navy.

ELCAS/M: The technical profile

The remarkable ELCAS/M is a system of temporary pierhead and roadway made from connected, P40-series steel pontoons, elevated on piles extending seaward across the surf zone up to 3000 ft from the beach.

The eventual system installation length is determined by the requirement to reach a maximum water depth at the pierhead of 20 ft [Mean High Water (MHW)].

The underside of the pierhead and roadway structure is installed a minimum of 15 ft above the Mean Low Water (MLW) level, based on a maximum tidal range of 8 ft. The primary function of the system is to provide for throughput of containerized cargo off-loaded from lighterage at the pierhead, which is carried by trucks to the beach.

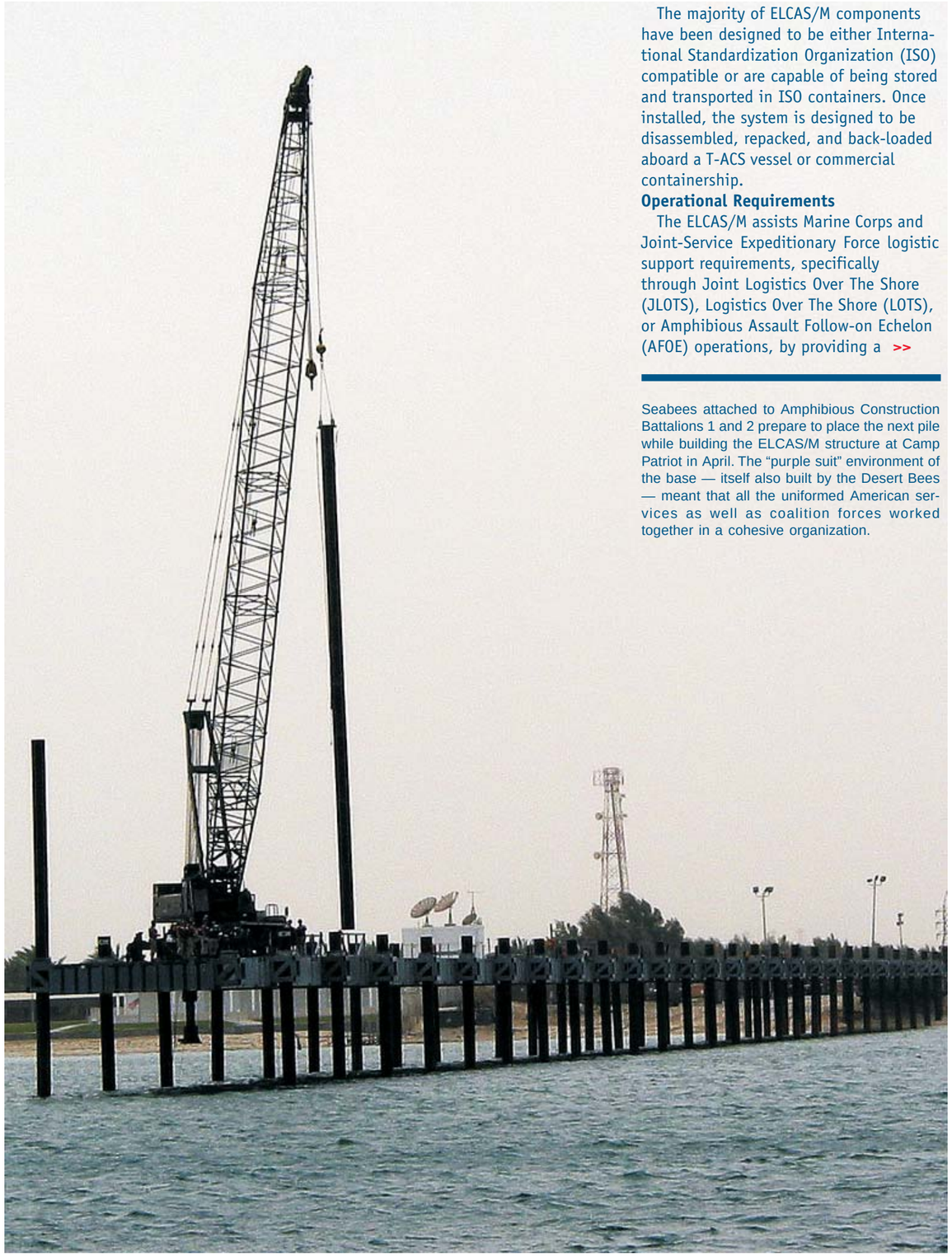
The entire system is made up of the ELCAS/M facility, the marshalling yard system and the barge ferry system. The ELCAS/M facility is defined as an elevated modular pontoon structure (or pier) that begins with a beach ramp, transitions to a variable length roadway, and extends to the seaward point of the pierhead. It includes the Pier System, a Lighting System, Safety, Navigation and Cargo Handling Systems.

The 24-ft-wide beach ramp portion of the ELCAS/M pier system provides a transition from the elevated roadway to the beach, accommodating all necessary military vehicles. The variable-length roadway is also 24 ft wide and is capable of supporting two-way truck traffic. The length of the roadway from the beach ramp to the pierhead can be varied up to a total of 67 pontoon sections (2680 ft) to accommodate varying beach gradients to satisfy the lighterage water depth requirement.

The system is normally installed, operated and retrieved by an Amphibious Construction Battalion (PhibCB). Standard assets required for the PhibCB to install the ELCAS/M include side-loadable warping tugs (SLWT) or powered causeway sections (CSP), required for barge ferry propulsion.

System Mission

The mission of the ELCAS/M system is to provide logistic support to the Marine Corps and Joint Expeditionary Forces. Where port facilities have been damaged or are nonexistent, or where surf conditions, beach gradient or other hydrographic conditions preclude direct discharge of cargo and equipment ashore, the ELCAS/M provides the capability to off-load containers from lighters beyond the surf zone and quickly move the cargo ashore via wheeled vehicles on the elevated roadway. >>



The majority of ELCAS/M components have been designed to be either International Standardization Organization (ISO) compatible or are capable of being stored and transported in ISO containers. Once installed, the system is designed to be disassembled, repacked, and back-loaded aboard a T-ACS vessel or commercial containership.

Operational Requirements

The ELCAS/M assists Marine Corps and Joint-Service Expeditionary Force logistic support requirements, specifically through Joint Logistics Over The Shore (JLOTS), Logistics Over The Shore (LOTS), or Amphibious Assault Follow-on Echelon (AFOE) operations, by providing a >>

Seabees attached to Amphibious Construction Battalions 1 and 2 prepare to place the next pile while building the ELCAS/M structure at Camp Patriot in April. The "purple suit" environment of the base — itself also built by the Desert Bees — meant that all the uniformed American services as well as coalition forces worked together in a cohesive organization.

suitable port facility for the transfer of containerized cargo from displacement-type lighters.

To satisfy the requirements for timely delivery of resupply and sustainment of supplies, the complete 3000-ft ELCAS/M facility must be installed within 168 hours — only seven days.

For a satisfactory mission completion, the installation time constraint requires tight scheduling and parallel operations. Therefore, as equipment on the first barge ferries begins arriving at the beach, the major installation events have already begun in parallel.

For example, off-load operations, such as ship-to-shore transportation and unloading pontoon barge ferries, continue while receipt and stowage of hardware, beach end and roadway erection, and installation of operating systems are in process.

The ELCAS/M has been designed to interface with Navy Lighter (NL) causeway barge ferries, Navy Mechanized Landing Craft (LCM-8), Utility Landing Craft (LCU, 136.25 ft overall length), Lighter Aboard Ship (LASH) barges and Seabee barge lighterage. The cargo handling system is capable of transferring fully loaded 40-ft ISO cargo containers (maximum weight of 67,200 lb) from the above lighterage.

The ELCAS/M facility cargo handling system is required to provide a cargo throughput rate of 370 20-ft container equivalents (TEU) per day in modest Sea State 1 weather conditions.

As weather conditions degrade, the ELCAS/M facility must remain capable of a cargo throughput of 330 TEU per day in rougher Sea State 2 and 200 TEU per day in rougher still Sea State 3.

Above and below, Seabees place a roadway section in building of the ELCAS/M structure at Camp Patriot.

In order to adequately support these through-put rates, the facility provides a pierhead arrangement outfitted with two cargo cranes and two vehicle turntable assemblies to allow for cargo handling on both sides.

Lighting

Two mobile floodlight trailers provide temporary or mobile lighting for marshalling yard nighttime operations prior to the installation of permanent lighting.

Following the installation of permanent lighting, these mobile lighting units are used to provide night-time lighting to the barge ferry access area, the empty container stowage area and other areas of the theater needing light.

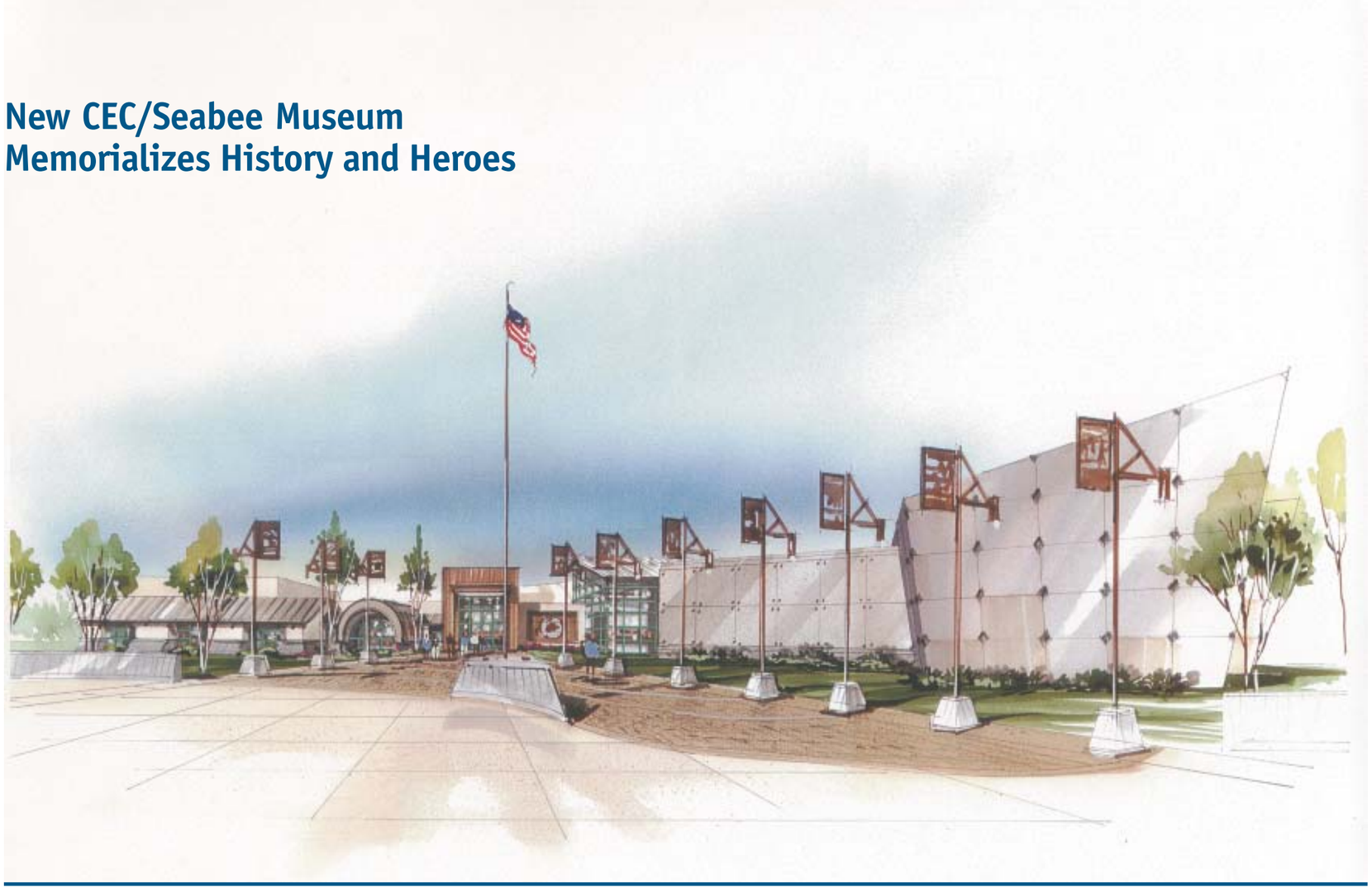
The floodlight trailer is a self-contained, diesel engine-driven, portable generator set equipped with four 1000-watt floodlight fixtures mounted on a versatile telescoping tower.

The permanent or fixed marshalling yard lighting is part of the ELCAS/M general lighting system. Six lighting standards, each supporting three 1000-watt lamps and their ballast, are provided for the marshalling yard permanent or fixed lighting.

The light standards are 36 ft high and are mounted in empty pile bins. For installation into an empty pile bin, a mounting bracket that clamps around a bottom cross-beam of the pile bin is provided for each marshalling yard light pole.

Advantages of the ELCAS/M facility over previous or comparable systems include initiation of construction from the beach vice the sea, in addition to important ISO compatibility of all components (exclusive of support vehicles) using the containerization methods and extensive interchangeability of the pontoons.

New CEC/Seabee Museum Memorializes History and Heroes



The front of the museum concept design (left) is sweeping and open, and lined with tall masts bearing CEC/Seabee symbols in weathered steel. The rear design (right) shows the structure contained by a low wall and fencing. Like the old museum, the new one commemorates the many and wonderful contributions of Seabees (below) since their stand-up in World War II.

The CEC/Seabee Museum began, almost by accident, when CEC officers and Seabees returned from the Pacific Theater at the end of World War II. Returning veterans brought with them thousands of artifacts, journals, photographs, and other records of their combat experiences.

Now museum officials and the CEC/Seabee Historical Foundation have undertaken a $12 million capital campaign to build the architecture and exhibits for a contemporary new CEC/Seabee Museum, to be located on the Naval Base Ventura County in Port Hueneme, Calif.

With help from sponsors and support from Seabees everywhere, the new CEC/Seabee Museum is expected to open to the public within the next three years.

Much of the returning Seabees' original historical material naturally accumulated at Port Hueneme, where farsighted officials stored these irreplaceable items and then established the Seabee Museum in 1947.

In 1956, the collection was moved to two huge Quonset huts where the items were catalogued and put on display. In the years since, additions to the buildings have expanded the display areas.

The museum has since become a Seabee landmark and a great success, attracting more than 15,000 visitors per year.

But unsuitable storage facilities and lack of climate control in the aging structures have put the museum's exceptional collection of artifacts and documents at risk. The exhibits, many of which were developed more than 20 years ago, are outdated.

In response to this deteriorating situation, a new facility and exhibition areas will offer the CEC/Seabee legend updated to present previously untold chapters of the story. With unimpeded accessibility to the general public, the new museum is designed to reach a much larger audience than before. The museum concept designs shown here represent preliminary concepts for the new CEC/Seabee Museum. The next stages of the project will expand upon these concepts and provide detailed designs for each component of the museum.

The design team and museum staff considered many factors while developing a design that is unique, exciting, cohesive and engaging. There were three goals for the visitor's personal experience — discovery, adventure and appreciation. These themes are woven throughout the museum experience, from arrival through the many exhibitions and out into the exterior environments. Visitors will explore the museum at their own pace and following their own particular style of learning. Information is expressed on and through many levels, from simple to detailed and in many forms.

The aging Quonset huts that house the current museum pale in comparison to the spectacular new architectural design for the CEC/Seabee Museum. Based upon its architectural presence alone, the new structure will enjoy a new level of credibility, not only among military museums, but within the international museum community. The goal of the design was to create a structure typical of those built by Seabees, for Seabees, with CEC and Seabee technologies. Gutsy tilt-up concrete walls are punctuated by towering pontoon masses, reinforcing the museum's themes while honoring the heroic design and construction efforts of WWII. Piercing the powerful anchor of the main building is a shaft of light, creating an open space and reflecting the transcendent mission of the CEC and the Seabees as protectors of American freedom.

Victory Plaza heralds the visitor's arrival with a feeling of celebration and grandeur. The United States flag stands proudly over the plaza, whose surface arcs around the "Roads to Victory Circle" in a wave-like pattern crafted from thousands of commemorative bricks. Tall masts support sheets of weathered steel, each bearing a symbol created of punched metal. The emblems include the Navy's Core Values of Honor, Courage, and Commitment, and the seven Seabee ratings.

A subtle "V" shape draws visitors toward the museum entrance. As they approach, visitors discover more CEC and Seabee construction techniques incorporated within the architecture — exposed concrete pier "foundations," a stylized Quonset hut (framing the conference room), raw concrete walls imprinted with form marks and screed lines, and a galvanized corrugated steel roof.

The entrance doors are supported within a massive weathered frame. To the right are the bold emblems of the CEC and Seabees, as well as the logo of the new museum, set off from the building's surface by dramatic cove lighting. Through a tall glazed wall, visitors are afforded a peak into the Grand Hall.

Visitors may spend as little as one hour or as much as one day at the museum. On their way out, visitors are encouraged to add themselves to the museum mailing list, which will inform them of upcoming special events and short-term exhibitions. Young adults can also learn more about how to join the CEC or Seabees.

For more information, call (228) 865-0480 or send e-mail to **info@seabeehf.org**

MCB Hawaii gets WET for clean, renewable energy

STORY BY DON ROCHON

The unique and highly technical Wave Energy Technology (WET) Project is an Office of Naval Research program that seeks to harness the energy of waves and transform it into electricity. NAVFAC Pacific Division is the on-site project manager and the Naval Facilities Engineering Service Center Port Hueneme will provide technical quality assurance.

The PowerBuoy™ Wave Energy Converter (WEC) was developed by Ocean Power Technologies of New Jersey. The WEC buoy, measuring roughly 15 feet in diameter and approximately 45 feet long, is anchored to the ocean floor and rides up and down near the surface of the ocean. The up and down motion pumps hydraulic fluid to a motor connected to a generator, producing approximately 20 kilowatts of electricity. The juice is then fed via a sub-sea cable onto shore and into the Marine Corps base electrical grid. Electrical and data acquisition infrastructure will be constructed on land in support of the project.

Why in Hawaii? For waves in Hawaiian waters, every square meter of wave front has, on average, some of the highest recorded wave power around the world.

The main objectives of the project are to validate the technology and to analyze the feasibility of producing clean, renewable energy using this method on a broader scale. For this project, data will be acquired for a two- to five-year test period.

U.S. NAVY PHOTO BY GRACE HEWLIN

HAWAIIAN BLESSING Keke Papa and Nalani Olds (left) perform a Hawaiian blessing May 20 at Marine Corps Base Hawaii, near the site of the new Wave Energy Technology (WET) project. The OPT PowerBuoy (right) is prepared for deployment on its big test.

Security

New Bar Code Decals Issued at NAS Jacksonville

Decals give base officials improved awareness of who is on base

STORY AND PHOTOS BY JO1 MIKE JONES

Detail of the vehicle bar code is shown above in the enlargement of the identifying sticker.

Security at the gates of military bases across the country has increased since Sept. 11, 2001, the War on Terror and *Operation Iraqi Freedom*.

Naval Air Station Jacksonville has implemented a security approach that not only helps keep the base more secure, but it also allows base officials to know who is on the grounds at any time around the clock.

Barcode Automation, Inc. (BAI), manufacturer of products designed and optimized for vehicle identification and access control, teamed with Baywood Technologies, a provider of services that include comprehensive facility maintenance applications and security information management for military installations. They jointly developed and deployed the BA-200 access control system specifically designed for the naval air station.

With the system, military members and civilians working aboard NAS Jacksonville will be required to get a bar code decal, which is automatically read as their vehicles pass through the gate. Motorcycle riders are not required to obtain the bar codes for gate entry.

According to NAS Jacksonville Physical Security Officer Norm Livingston, the bar code readers, installed as part of the Military Access Control System (MACS), resemble many of the security systems that exist at various gated communities.

Top, bar code decals are affixed to the rear passenger window on the driver's side of a vehicle. Above, bar code readers observe vehicles as they approach the NAS gates.

Vehicles may pass the reader at up to 25 mph, and provided the code is valid, the entrance gate or barrier will automatically open. This allows for drivers to gain admission to the base without the inconvenience of having to stop, roll down a window or insert a key card, ensuring a smooth flow of traffic and enhanced parking access control.

As a vehicle passes a scanner, the data is processed indicating whether a person's status is authorized, Livingston explained.

"That data will instantly let the gate guard know whether the driver is allowed to come on the base," he noted. The upgrade greatly reduces the time it would take to manually verify a person's essential status.

At present, all working military and civilians listed in their command's MACS system are required to obtain the new decals, Livingston noted. Personnel not working on base, such as retirees, are not required to get the new decal. "Essential personnel are identified by a command's MACS administrator," he said.

Bar code decals will be issued to a maximum of two vehicles per household. "Parking on base during increased force protection measures will be extremely limited," Livingston said.

The new bar codes will not replace the standard military decals required for privately-owned vehicles to enter the NAS gates.

The BA-200 was designed to withstand harsh outdoor conditions and to operate in any kind of weather. The bar code reader has a standard Wiegand 26-bit output and a RS232 serial port for connecting to an access control panel or computer. It can also operate as a stand-alone system.

"BAI's bar code readers have enhanced what we are able to offer through our Military Access Control Systems to both military and civilian environments," said Bill Fitzgerald, chairman and CEO of Baywood Technologies, Inc. "The readers have proven to be well suited for high-traffic entrances and can activate a variety of access control and surveillance devices."

LIR: *In peace and at war, the Logistics Improvement Roadmap will provide seamless material supply to support Seabee projects worldwide.*

STORY BY CAPT JIM COWELL AND CDR DAVE COZIER >> PRINCIPAL PHOTOGRAPHY BY PH1(AW) ARLO ABRAHAMSON

For the past 61 years, the Seabees have constructed thousands of miles of roads — including the "five roads to victory" across the Atlantic and Pacific in World War II. As the Seabees move into the 21st century, they have a need to build a new kind of road — a road that is paved with the Seabee logistics vision.

With buy-in and support from throughout the Seabees, the newly named Naval Facilities Expeditionary Logistics Center (NFELC) is spearheading this effort.

The Naval Construction Force (NCF) logistics vision is to provide Seabees with a highly effective and efficient logistics system capable of equipping, moving and sustaining the force; is interoperable with the Navy, Marine Corps and in joint environments; is comprised of flexible and responsive systems and processes; and is seamless and consistent across the NCF.

The blueprint for achieving this goal is called the Logistics Improvement Roadmap (LIR). The plan is built around five functional areas of Seabee logistics:

1. Project material estimation, procurement, and distribution
2. Sustainment of current readiness
3. Mobilization to meet time-phased force deployment document (TPFDD) timelines
4. Seabee load-out aboard maritime pre-positioning force (MPF)
5. Modularization, containerization and modernization (MCM)

The Logistics Working Group (LWG) has begun to shift its view of the Seabee Table of Allowance (TOA) assigned to each NCF unit. In the past, the TOA was looked upon as a collection of material and equipment — all put in a big box and hauled around the world with us.

Today, the NCF regards the TOA as its "weapons platform," with the various assemblies within the TOA as the weapons systems. This is not unlike the way the surface Navy looks at a ship as its weapons platform. The TOA is the Seabees' "ship."

The NCF is a completely integrated force. Therefore, our logistics improvement initiatives are applicable to all NCF units, active duty and reserve.

Whether sent to one of the forward deployed sites around the world in peacetime or arrayed in support of a contingency, one of the major hurdles is providing Class IV materials to the Seabees to feed the construction machine. This is the "fuel" for construction operations.

There are numerous and well-known challenges associated with getting Bees the right materials at the right time. The bulky nature of construction material and the long supply lines to remote sites add to the complexity. When possible, Seabees typically use host-nation supplies, but to meet the full mission requirement, we must be able to supply material in any environment — even third world countries without robust economies.

The goal of LIR is to provide seamless material supply to support Seabee projects worldwide in both peacetime and wartime. One of the major initiatives is a partnership with General Services Administration (GSA) and Defense Supply Center (DSC) to use their construction material vendors to develop a "Seabee vendor" system. The vision of this concept is to have a one-stop vendor that has the capability to prepare a bill of material, and that can order and ship construction material to anywhere in the world. Although we will maintain an organic capability to perform this function, the "Seabee vendor" will be an effective tool that will reduce Bee workload and improve the efficiency of delivering materials to Seabees.

US NAVY PHOTO BY LINDA WADLEY

The cornerstones of rapid deployment of Seabees and Marines in contingencies are pre-positioned equipment stores. It's equally important to bring stocks back home, here with Bees loading ships in Kuwait during *Operation Iraqi Freedom.*

Getting Seabees in the field the logistics support they need to perform their "We Build – We Fight" mission is essential. We're implementing and enhancing MicroSNAP as the NCF standard for unit-level inventory, financial management and maintenance, including deployment training of key personnel, inventory/data entry, follow-up reporting and monitoring. The LWG is also adding a MicroSNAP module to provide unit-level TOA management.

Next, the LWG is adopting standard Navy Configuration Data Management (CDM) and Ships Configuration and Logistics Information Support System (SCLISS) processes to control our Seabee "ship."

This is done by converting current TOA data to standard Navy logistics hierarchal structure in the Weapons System File; it allows inventory visibility in conjunction with implementation of 3M (Maintenance and Material Management) and reliability-centered maintenance across the spectrum of the NCF.

Recent events have demonstrated the Seabees' need to sustain themselves in a joint-service environment. To do this, the LWG is developing plans to maximize compatibility with other-service equipment, ensuring support and data exchange processes exist and function. In addition, the LWG is evaluating adaptation of the Marine Corps' Small Unit Logistics System.

Although much of the Seabee TOA is prepurchased and staged around the world, there are numerous deferred-from-buy items for each TOA that must be obtained as needed — usually at the time of mobilizations. Accurate and up-to-date attainment plans are essential to obtain these thousands of items of material and equipment.

Roles and responsibilities of commands involved in TOA mobilization have changed considerably in the past several years and are being identified and documented in a Mobilization Standard Operating Procedure, after which an update of the various Local Support Plans can be completed. These plans include Reserve personnel processing, training and outfitting processes of the various TOAs.

In the 1990s, the NCF enhanced its capability to support the Navy/Marine Corps Team by adding one battalion and one regiment TOA to each of the Marine Preposition Fleet squadrons. Now that eight of nine ships are loaded and deployed (USNS *Wheat* is planned for a fall 2003 loading), this functional area addresses the need to maintain stored equipment and the need for Seabees to practice getting their gear off the ship and integrated with the Marine Corps.

The LIR is a transformational initiative, moving Seabees from decades-old standalone systems and bringing them into the 21st century. The resulting alignment with standard Navy logistics systems ensures Seabees have full capability, interoperability — and robust support as they maneuver in today's battlespace.

CAPT Jim Cowell is the commanding officer of the Naval Facilities Expeditionary Logistics Center (NFELC) Port Hueneme, formerly the Naval Construction Battalion Center. CDR Dave Cozier is the NFELC executive officer.

Navy's Offshore 'Top Gun Towers' to be Renovated

Story by Sara Finlayson, P.E.
Photograph by Will Loper

The Marine and Offshore Structures Division of the Naval Facilities Engineering Service Center (NFESC) will rehabilitate eight Navy Tactical Aircrew Combat Training System (TACTS) offshore towers at Beaufort, Oceana and Key West. The offshore platforms are in the Atlantic Ocean and are used in training operations for Navy, Marine Corps, Air Force and Air National Guard fighter pilots.

The first set of towers to be repaired is located at the Beaufort Range, approximately 60 miles off the coast of Georgia. Towers R2 and M2R6 are scheduled to be completely refurbished in the coming months, replacing a corroded boat landing, removing rust and painting from the waterline to the top of the antenna towers.

Many of the horizontal and diagonal members on the antenna tower at R2 have corroded so severely that there is a danger of catastrophic collapse. Range personnel anticipate the refurbished Towers R2 and M2R6 to be in use for the next 20 years. Because Tower R2 is considered the Achille's heel of the system, its corroded parts will be completely replaced during the renovation.

The remaining six towers at Beaufort are projected to be in service for only the next 10 years and so don't require the same level of effort. Those towers will be spot-blasted and spot-painted as required to eliminate the rust. In lieu of replacing entire boat landings, which are no longer necessary, swim ladders will be installed to allow for a second form of egress in the event of an emergency.

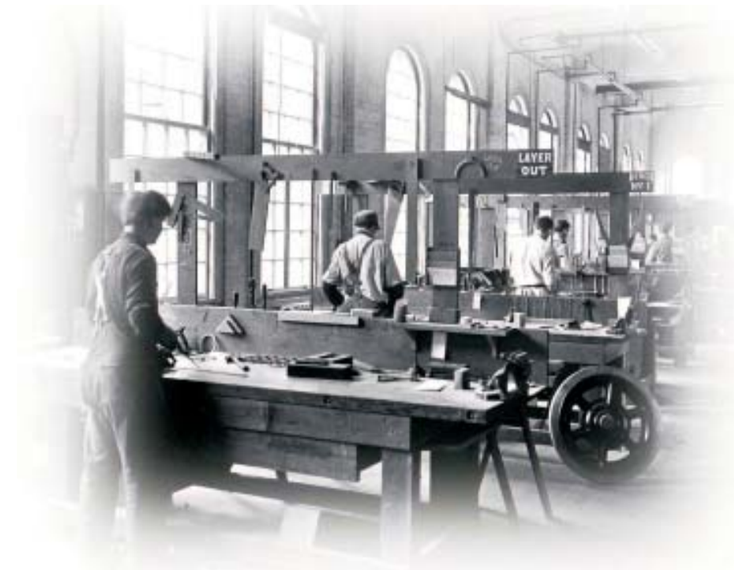
The contractor will prepare some of the towers for work to be performed at a later time. At this writing, the contractor has removed gratings on the boat landings at Towers R7 and R8 in preparation for the installation of the new swim ladders. Since funding is limited this fiscal year, the work will be continued during the summer of 2004.

Funding will be provided for the next several years to complete the required repairs. Upon completion of the repairs at the Beaufort Range, required repairs at Oceana and Key West will also be addressed.

Approximately 60 miles off the coastlines of Beaufort, Ga., Virginia Beach, Va., and Key West, Fla., are training ranges for jet jocks. The U.S. Navy operates the Tactical Aircrew Combat Training System (TACTS) range here, primarily to monitor and track fighter pilots engaged in air combat — dog-fighting — training. The planes are equipped with extensive sensor packages that relay real-time information on location, speed, heading, etc. about each plane to a number of TACTS communications platforms spread over the range. The platforms, in turn, relay the flight data to an onshore station connected to the TACTS computers at a Navy or Marine Corps station on shore. At the conclusion of a training mission, the pilots get a review to see how they performed, what they did wrong and how they can improve their flying.

New Wine, Old Bottle

Puget Sound Naval Shipyard's historic old pattern shop gets new a look — and a new mission



Demolition/Construction Factoids:

- Demolition Material: 6,117,706 lbs
- Recycled Material: 475,090 lbs
- Soil (non-haz): 560,060 lbs
- Construction Waste: 161,120 lbs
- 20,000 ft of mechanical piping – more than 3.75 miles
- 60,000 feet of electrical conduit (more than 11 miles)
- 350,000 feet of electrical wiring (more than 66 miles)
- More than 425 yards of concrete
- More than 25 yards of grout
- More than 190 yards of shotcrete
- More than 660 gallons of paint
- More than 60,000 manhours without a lost-time accident

In 1920 (far left), the old pattern shop building was a radio laboratory and electrical shop. Pattern makers (near left) at their work benches in 1912. Artist rendering (below) of the finished product.

STORY BY LT TUAN NGUYEN

Once considered a prime candidate for demolition, the "old pattern shop" at Puget Sound Naval Shipyard, Bremerton, Wash., has been refurbished and is now the new home of the Quality Assurance Department Laboratory Division.

The relocation marks the successful completion of Military Construction Project P-416 that renovated and modernized more than 31,000 square feet of this historic building. Now rising out of the crumbling walls of the pattern shop is a state-of-the-art chemical and metallurgical analysis facility.

Historical Background

Built in 1896, the pattern shop is one of the oldest buildings at Puget Sound Naval Shipyard. It represents a distinctive building style of the period designed by the Bureau of Yards and Docks, the forerunner of today's Naval Facilities Engineering Command.

The heavy brick masonry walls with neo-Renaissance/classical detailing and a steel truss gable roof were typical of industrial structures built at the turn of the century in the shipyard.

The building originally consisted of three structures built at different times: the original building (1896), a masonry addition (1904) and a concrete addition (1922) on the north end of the 1904 addition. In its earliest years, the building was used as a storehouse but was converted to a pattern shop in 1910.

A few years later, two pattern shops that had been functioning separately under the Bureau of Construction and Repair and Bureau of Steam Engineering were joined together. The pattern shop shared the building with the radio laboratory and the electric shop for a period of time.

During the 1920s and 1930s, the shipyard was the only West Coast facility capable of servicing the capital ships of the Pacific Fleet. During World War II, the shipyard played a vital role repairing damaged battleships. Employment in the pattern shop reached an all-time high with 100 people working on a round-the-clock basis.

The foundry created ship parts using molds that were handmade by the pattern makers. The pattern shop was an integral element of the flow of parts and materials used to repair damaged ships during World War II.

In addition to the regular pattern work, the pattern shop constructed scale-model plastic ships used to train naval personnel, the largest a 22-foot aircraft carrier replica. The shop was considered the most modern of all such shops west of the Mississippi. >>

The Renovation Process

Stepping into the old pattern shop building was like going back in time — it's one of the shipyard buildings that make up the National Historic Landmark District at Puget Sound Naval Shipyard. The interior remained largely unchanged over the years. The sun filtering through large, old multi-paned windows, and the wood floors and workbenches made you feel as if you were part of a different era. Changing this building into a modern chemistry laboratory was quite an undertaking. Due to its historic significance and classification, the lab had to be designed so it retained as many of the defining historical characteristics as possible. Moreover, the stakeholders wanted it that way too.

Construction started with the demolition of the interior as well as a 1922 concrete addition. Challenges encountered while working in such an old facility included the removal and disposal of potentially hazardous construction materials, along with unforeseen site conditions.

The two remaining structures were seismically upgraded with shotcreting and foundation shoring with grade beams along with interior steel K-bracing installation. On the exterior, the roof membrane was replaced while the exterior brick was carefully repointed and cleaned. Several windows and doors were fabricated, replicating the historical windows and doors found throughout the building.

Inside the structure, ceilings were set back to allow for the full majesty of the window openings; the 1911 freight elevator and machinery room were retained; ceilings in the office spaces were left open; some of the interior brick walls were left uncovered; and the bead board (wainscoting) that was a common feature in the 1896 structure was salvaged and reused.

Modernization involved the upgrade of the fire protection system along with electrical and other utilities to current code standards; installation of heating, ventilation and air conditioning system (HVAC) to include special heating and ventilation requirements; installation of modern lab benches and fume hoods; installation of sinks and special plumbing to support numerous different laboratory functions; and installation of a new traction elevator.

One Facility Voice

The completely renovated building will help ensure successful future support of multiple mission requirements. This project was a collaboration of efforts involving the Washington State Historic Preservation Office, the Production Engineering and Facilities Department (Code 980), the Environment, Safety and Health Office (Code 106), and the NAVFAC Engineering Field Activity Northwest field office Resident Officer in Charge of Construction. The multi-million-dollar design-build contract was awarded to M. Kennedy Company and Wade Perrow Construction Joint-Venture in January 2001 through best-value source selection.

Working together as a team, the Navy, the two prime contractors and more than 30 subcontractors overcame numerous challenges and unique issues to arrive at a wonderful solution. The hard work by all has resulted in a construction of a modern laboratory facility with uncompromised functionality, quality and safety, yet that maintains a connection to the shipyard's historical past.

The spirit of cooperation and partnership has yielded a beautiful facility that will serve Puget Sound Naval Shipyard for many years to come.

Clockwise from upper left, a crane is involved in demolition of the pattern shop's rear area; the cavernous interior during the renovation; heating and cooling ductwork was installed above the third floor; new support beams added structural rigidity; and lots of scaffolding was needed to address brickwork and repointing.

In memoriam:

RADM Walter M. Enger 1914-2003

REAR ADMIRAL WALTER M. ENGER, CEC, USN (Ret.), 89, the second Commander of the Naval Facilities Engineering Command (NAVFAC), died of leukemia on June 27, 2003 in the health-care unit of The Virginian retirement community in Fairfax, Va.

During a distinguished naval career of 32 years, his numerous duty stations included Naval Construction Battalions 59, 72, and 31; the U. S. Naval Academy; Marine Corps Base Camp Pendleton; CEC Detailer; the Bureau of Yards and Docks (BUDOCKS); and Director of the Bureau's Chesapeake Division. In 1965 he was promoted to Rear Admiral (lower half) and appointed Deputy Chief of the Bureau of Yards and Docks.

When BUDOCKS reorganized as a systems command in May 1966, RADM Enger became the first Vice Commander of the new NAVFAC organization and in August 1969 he succeeded RADM Ace Husband to become its Commander. He retired from the Navy in May 1973 and became vice president of DeLeuw, Cather and Company, consulting engineers and planners.

Graveside services were held at the Arlington National Cemetery Columbarium on Aug. 25, followed by interment with full military honors.

The family has suggested contributions in RADM Enger's memory to the Seabee Memorial Scholarship Association Inc., PO Box 6574, Silver Spring, MD 20916.

CAPT Kenneth P. Butrym 1957-2003

CAPTAIN KENNETH PATRICK BUTRYM, CEC, USN, 46, died June 26 in Port Hueneme, Calif. He had recently assumed command of Public Works Center Norfolk and was the regional engineer for the Mid-Atlantic Region.

Born in Long Beach, Calif., in 1957, Butrym was commissioned an Ensign in the Navy after graduating from the NROTC program at Marquette University in 1979.

His duties included First Division Officer, then CIC Officer and later Operations Officer on the USS Plymouth Rock (LSD 29). He entered the Civil Engineer Corps in 1983.

CAPT Butrym was a Registered Professional Engineer in the state of Texas, and a member of the Acquisition Professional Community. He was affiliated with the Society of American Military Engineers, and was heavily involved with Little League Baseball and the YMCA Basketball Program, coaching and managing baseball and basketball teams.

Funeral services with full military honors were held July 8 at Marine Corps Base Quantico Chapel, followed by interment in the Quantico National Cemetery.

In lieu of flowers, memorial contributions may be made to the Seabee Memorial Scholarship Association Inc., PO Box 6574, Silver Spring, MD 20916. Cards or notes may be sent to the family in care of Public Works Center, 9742 Maryland Ave., Norfolk, VA 23511.

Les Helsdon 1924-2002

LES HELSDON, the award-winning former editor of the former Port Hueneme *Seabee Coverall* and later the *Navy Civil Engineer* magazine, died Nov. 26, 2002, at the age of 78 in Coos Bay, Ore.

He is survived by his wife Marcy; sons Kent, John and David; and daughters April Grover and Robyn Helsdon.

His long and varied Navy career began as a technical writer and editor at the Naval Civil Engineering Laboratory in July 1965. He worked two years each at Naval Ship Weapon Systems Engineering Station and at the CBC's Civil Engineer Support and Facilities Systems Offices. In 1972, Les began his long service as the editor of the *Seabee Coverall*.

In 1980, he was named the public affairs officer for the Civil Engineer Corps Officer School (CECOS) at Port Hueneme. While there, he served as the editor of this magazine.

He taught his "famous" public speaking classes for student CECOS officers until his retirement on Sept. 30, 1988.

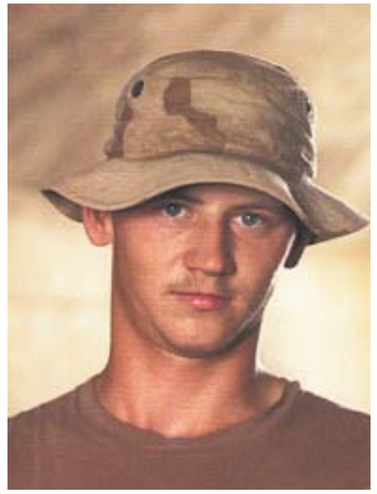
His helpfulness to legions of Seabee working journalists and photographers was well established and well recognized — including a CHINFO Award bust of Thomas Jefferson that he said represented the highlight of his career as a Navy journalist and editor.

It was his goal and he achieved it — winning 32 journalism awards from the Chief of Naval Information.

BU3 Doyle "Wayne" Bollinger, 1982-2003

Fallen shipmate

STORY BY LT ERIC BRIETENBACH, NMCB 133 AND KEELY WEST, POTEAU (OKLA.) DAILY NEWS



PHOTOGRAPHS BY JO2 JACOB JOHNSON

SEABEE BUILDER 3RD CLASS Doyle "Wayne" Bollinger, a 21-year-old Sailor from Poteau, Okla., assigned to Naval Mobile Construction Battalion 133, was remembered with full military honors June 13 during funeral services held in the Poteau High School's Sherman Floyd Fieldhouse.

Bollinger was killed June 6 in Iraq, the apparent victim of an accident when unexploded ordnance detonated in the area where he was working.

Bollinger had been hand-selected to be a member of the battalion's air detachment for the 2003 deployment. He served as rifleman number two for the first fire team, second squad of the vertical construction platoon.

A Seabee air det is the tip of the spear for the battalion and is the first responder for any contingency. Bollinger's selection for this important role was motivated by his excellent historical performance.

He was a key element in many of the air det's accomplishments, including crossing the border into Iraq on the second day of the war to help construct a 16,000-person enemy prisoner of war (EPW) holding facility.

Establishing the EPW holding facility was critically important to prevent the combat force from being slowed by the administrative handling and processing of prisoners. The construction of the complete facility took just 96 hours, finishing an impressive two days ahead of an already tight schedule.

Bollinger was later selected to be on a detachment of Seabees defending the key Highway 1 Euphrates river crossing, a major theater asset.

While a member of the defense squad, he was a vital crewmember of a team that removed four double-shore medium girder bridges. The completion of this project played an integral role in maintaining and improving the main supply route for movement of critical supplies to forward battle units.

The Seabee was later chosen to join the runway repair team sent to Al Jarrah airfield outside of Al Kut, Iraq. The team placed more than 1200 cubic yards of concrete in two runways and a taxiway intentionally damaged by Iraqi forces prior to the outbreak of hostilities, seeking to prevent coalition forces from using it .

"We have to do this," Bollinger had told his mother. "We're going to have another 9/11 if we don't. We have to keep families safe."

The contributions Bollinger helped make to repair the airfield were key to providing civilian aid organizations a forward presence, and providing a base for the essential humanitarian assistance to the people of Iraq.

"I told him the last time I talked to him on the phone that he'd be okay," said his father Doyle Bollinger Sr. "He was with the Seabees, and they're more behind the lines."

Bollinger's brother, Clendon, said his brother was doing what he loved from the time he was very young — construction — and he talked about how friendly the Bee was to everyone.

"Wayne was just Wayne," Mrs. Bollinger said, adding that he had a great sense of humor. She told him that he couldn't go to Iraq, that he'd have to call his commanding officer and tell him that his mom had grounded him.

"He pulled out his cell phone like he was going to call and said, 'Sorry mom — phone's broken'," Mrs. Bollinger said.

As expected, family members said his death had been very difficult, but they had received a tremendous amount of support from both the Navy and their local community.

"He knew [the Navy] was better for him," Mrs. Bollinger said of her Seabee. She said he also believed in the actions the United States took in Iraq.

"We have to do this," Bollinger had told his mother. "We're going to have another 9/11 if we don't. We have to keep families safe."

Mrs. Bollinger told reporters that she knew her son would rather have died than for any of the others, who were injured in the same incident, to have died instead of him.

She encouraged everyone to continue their prayers and support of the troops serving overseas. "They need our support and they need to be remembered when they come home, and be treated with respect," Mrs. Bollinger said.

In the tradition of a U.S. Navy Seabee, Bollinger was notably dedicated to service and the welfare of others. He helped to construct SEA huts at various Marine Corps units to provide relief from the blistering heat of Iraq. These huts are still used by the Marines for rest and relaxation while not on duty.

Bollinger was a genuine team player and consistently contributed to improving the lives of those around him, unit members said.

Even while assigned to food service attendant duty — a job envied nowhere in the Navy — he always thought of his shipmates.

He spearheaded an effort to purchase sodas, case by case, until enough were collected and could be served cold during an even-ing meal. This made a lasting impression on the 133 Bees.

He was constantly thinking of ways to make the lives of those around him just a little better. The greatest accolade of all? He was highly respected by his fellow Seabees.

The Rev. Jim Parsley officiated at the Poteau services. Interment followed in Oakland Cemetery in Poteau, Okla.

Bollinger's NMCB 133 shipmates renamed their Iraq worksite in his honor.

Vicenta Chargualaf Peredo, 1934-2003

Remembering 'Seabee Betty'

BY JO1 (SCW) MICHAEL D. MITCHELL AND COLEEN R. SAN NICOLAS-PEREZ

She was born Vicenta Chargualaf Peredo, but to the U.S. Navy Seabees, she will be forever remembered as "Seabee Betty."

Born Sept. 10, 1934, in the village of Yona, Guam, Seabee Betty was a surrogate mother for generations of Seabees until her death June 9.

As a young woman growing up in post-World War II Guam, Seabee Betty was famed for her goodwill and love of humanity. Her job at *Club Mocambo* on the Naval base, introduced her to thousands of Soldiers, Sailors, Marines, Airmen and, of course, Seabees.

In 1952, she took a strong interest in Seabees who were stationed on or deployed to Guam. Recognizing hardship and sacrifice of being so far from home, Seabee Betty took it upon herself to welcome the hard working men of the construction battalions, introducing them to native Chamorro culture.

"Going to Seabee Betty's house was always like going home for the holidays," said Navy CAPT Joe Ludovici, commanding officer of Public Works Center Guam.

"Seabee Betty reminded me of my own grandmother, very sweet and engaging, but also the firm matriarch of a large extended family."

For more than 50 years, Seabee Betty cared for each battalion by hosting hundreds of fiestas, attending official functions and planning several Chamorro-style weddings throughout the decades. Every service member she met instantly became a long-lost member of her family and was welcomed with a kiss on the check, a friendly hug or a kind word.

"Every Seabee of every rank that has ever deployed to Guam will always remember Seabee Betty," said CDR Mason Crum of NAVFAC Engineering Field Division Atlantic. "She has had such an impact on so many lives that I honestly believe that Seabee Betty will be remembered as long as there is a thing called a 'Navy Seabee'," he added.

In her role as Guam's unofficial Ambassador of Goodwill, Seabee Betty dedicated herself to strengthening the friendship between the Navy and the people of Guam.

What most people now call community service, Seabee Betty called friends helping friends, and for decades she worked to bring her two families closer together.

"She loved her military. She bragged about her military all the time. She probably bragged about them more than us," said her daughter Debbie Peredo. "She told me that the military was what Jesus wanted her to take care of," she continued.

Seabee Betty was a beloved figure in the Navy continuum for many decades. She will be missed by the Seabees she loved.

For her devotion, she was recognized throughout the years by numerous Chiefs of Naval Operations, U.S. senators, admirals and generals from various military service, President Ronald Reagan and, more recently, President George W. Bush.

In 1991, she was inducted into the Seabee Museum at Port Hueneme, Calif., as only the second civilian to be bestowed this honor. The first was actor John Wayne, who starred in "The Fighting Seabees."

As each new group of Seabees arrived, they were welcomed with the same affection and enthusiasm as the battalion that came before.

RADM Charles Kubic, First Naval Construction Division, discovered this when he introduced his son to Seabee Betty.

"When I visited, I took Charlie and [his] photo down to visit Betty — she was absolutely thrilled that yet another generation of Seabees was coming of age," Kubic said.

Vicenta Chargualaf Peredo was laid to rest in the Guam Veterans Cemetery June 20, surrounded by her family and the Seabees she loved.

She is survived by nine children, 40 grandchildren, 38 great-grandchildren and the thousands of Seabees throughout the Navy whose lives she touched.

The Civil Engineer Corps and U.S. Navy Seabees seek suggestions for a Seabee Betty memorial. To submit ideas or for more information about how to donate, contact the Seabee Betty Memorial Fund at **seabee_betty@hotmail.com**.

HOW TO

KNOW YOUR COMMAND

WITHOUT AN EYE CHART

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