

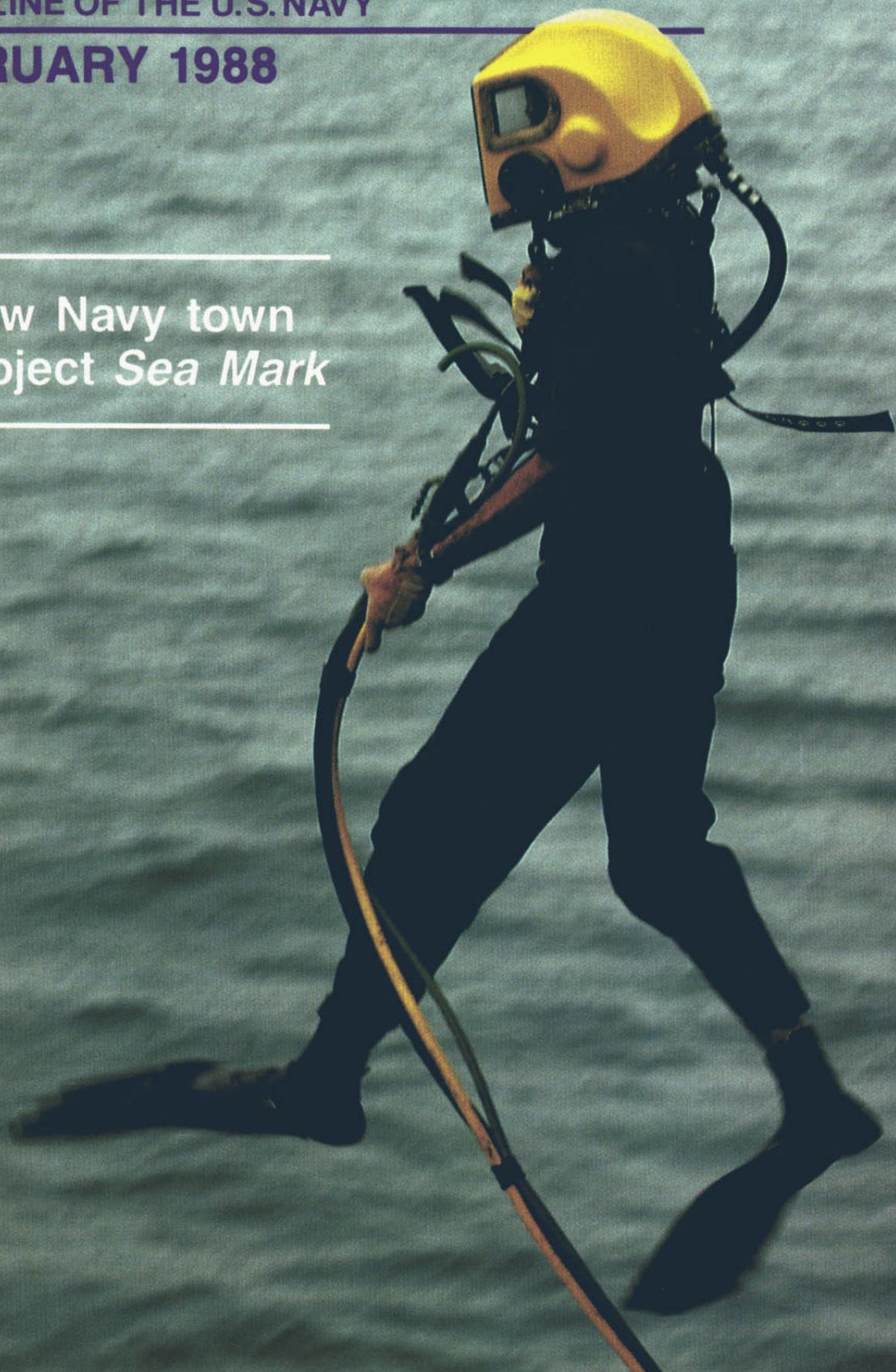
# ALL HANDS

MAGAZINE OF THE U.S. NAVY

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FEBRUARY 1988

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- New Navy town
  - Project *Sea Mark*
- 





Best seats in the house: the view is fine from the deck of USS *Kansas City* (AOR 3) to USS *Missouri* (BB 63), where a CH 46 lands. In the distance is USS *Long Beach* (CGN 9). The three ships were operating together in the North Arabian Sea. Photo by PH1 Terry Cosgrove.

# ALL HANDS

MAGAZINE OF THE U.S. NAVY  
FEBRUARY 1988 — NUMBER 851  
65th YEAR OF PUBLICATION



Photo by JO2 David Masci

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**Front Cover:** Navy diver from MDSU One enters water from diving platform in Apra Harbor, Guam. See story, Page 18. Photo by Larry Murphy.

**Back Cover:** "The Signalman," a watercolor by Walter Brightwell, from the Navy Art Collection.

# Navy Currents

## Tour extensions

The FY 1988 Voluntary Tour Extension program is still under way. NavOp 105/87 states there are new eligibility provisions for certain enlisted ratings on Type 1 (shore) duty and extends the deadline for all extension requests until April 30, 1988.

The goal of the extension program is to make better use of Permanent Change of Station funds. Officers and enlisted men and women with an FY 1988 Planned Rotation Date may request an extension at their present duty station, if not currently under orders.

Sailors on Type 2, 3, 4, 5, 7 or 8 duty, selected ratings in Type 1 duty and officers on sea duty or stationed overseas are eligible to apply for a one-year extension.

Speedletter applications, with command endorsement, should be forwarded to Commander, Naval Military Personnel Command, Navy Department, Washington, D.C. 20370-5312. Undesignated seamen, airmen and firemen requests should be sent to the Enlisted Personnel Management Center, with an information copy to NMPC. For more information, consult NavOp 105/87. □

## More ships for women

Secretary of the Navy James H. Webb Jr. announced recently that approximately 26 more ships would be outfitted for female sailors.

This announcement followed an intensive review of women in the Navy. Webb directed a study group to make a comprehensive examination of current policy on utilization of women and the implementation of this policy within the Navy. The group was tasked with examining command environment and quality of life with regard to equality of treatment of males and females.

The group, which was comprised of 14 captains, six commanders, four master chief petty officers and a steering committee of four flag officers (50 percent of the group were women), made 39 recommendations to the secretary, most of which he approved, including a clearer definition of combat mission.

The policy change will result in the opening of combat logistics force ships, such as AFSs, AOs and AEs, to women. In addition, women may now serve as Fleet Air Reconnaissance air crewmen. Webb warned however, that because of the extensive outfitting required before assigning women to these ships, it will be a long-term project. He also pointed out that currently there are approximately 6,000 sea billets for women, but only 5,000 are filled because of a lack of qualified women in sea-intensive ratings.

To help meet the demand for more qualified women, Webb said the Navy must reevaluate some of its training and recruiting programs.

Webb said he was impressed with the study group's thoroughness and careful analysis and he said he believes they presented a balanced assessment of a complex issue. He said that women in the Navy represent "the most difficult manpower issue the military has ever faced. No question about that." But maximum assimilation is important because, as Webb said, "Women are an integral part of our Armed Forces." □

## New home port

Ground breaking ceremonies for the Navy's newest home port were held recently in Everett, Wash.

Everett A. Pyatt, assistant secretary of the Navy for shipbuilding and logistics, Governor of Washington Booth Gardner, along with Bill Moore, the mayor of Everett and the area's top Navy officers, turned the first shovel of earth at the future home port for the aircraft carrier USS *Nimitz* (CVN 68) and 12 support ships.

"I welcome the Navy to Everett with the understanding that what occurs here, while it will be good for the state and county, first and foremost will be good for the country," Gardner said.

"You'll find us good citizens and you'll be proud of us," Pyatt told the crowd of 600. Navy people "are the best and finest of America and you'll be proud to have them in your city."

The occasion was highlighted by the release of hundreds of blue and gold balloons as Navy Band, Seattle played "Anchors Aweigh." □

## Braids, earmuffs, umbrellas

Chief of Naval Operations Adm. Carlisle A.H. Trost recently approved some uniform changes that will make for drier, neater and warmer sailors.

Navy men in uniform can now carry plain, solid black, umbrellas without ornamentation. The umbrellas must be carried in the left hand for ease in saluting and can't be used as a cane or walking stick. Umbrellas are prohibited in military formation or if they pose a safety hazard.

Another change allows Navy women to braid their hair. A woman can wear a maximum of two braids, neatly secured to the head at all points.

Navy men and women can wear Navy blue earmuffs with service or working uniforms when outer garments are worn. And, if authorized by the prescribing authority, the enlisted peacoat and Officer/CPO reefer may be worn with the service dress white (jumper) and summer white uniforms when local conditions warrant.

Women working on boatcrews can wear blue garrison caps with their summer whites. □

## Not in my Navy

The Navy has again toughened its anti-drug campaign. As of last October, E-6s who commit an initial drug offense will be disciplined appropriately, screened for drug dependency and processed for separation at the earliest possible date.

The change was announced in NavOp 094/87 and revises OpNavInst 4350.4.

Since 1982, the Navy's tough stance on drug abuse has greatly reduced the number of drug abusers in the Navy. "Petty Officers 1st Class, by virtue of their paygrade and position, must lead by example. Any drug abuse by these people is unacceptable," the message says.

The new policy also affects those E-6s who turn themselves in for drug abuse. All those separated administratively or punitively who are medically diagnosed as drug-dependent will be offered treatment by a Veterans Administration treatment facility when they leave the Navy. □

# ALL HANDS

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Chief of Naval Operations

**Adm. Carlisle A. H. Trost**

Chief of Information

**Rear Adm. J. B. Finkelstein**

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# Coming home to Everett

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*By 1992, the Navy plans to establish a major new home port in the Pacific Northwest. All Hands looks at a city thousands of sailors will one day call "home."*

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Story by JO2 David Masci

From atop a sheer cliff overlooking Puget Sound, the blue-collar homeowners all along Rucker Avenue enjoy a sweeping view of the town's waterfront.

To the north, the Snohomish River spills into the Sound in front of the Weyerhaeuser paper mill, a landmark since 1902. The shoreline also curves south, sheltered by narrow Jetty Island just offshore. The low silhouette of the island is interrupted by a dense forest of ships' masts. With close to 2,300 berths, all filled with small fishing boats and pleasure craft, Everett boasts the largest Pacific Coast marina north of Los Angeles.

Below the cliff, green and white harbor tugs chug across Port Gardner Bay, hauling 200-foot log rafts among the cargo ships bound for the Far East.

Fronting the bay, a mammoth red brick warehouse belches steam as its machinery and 1,200 workers process raw wood into Scottowels and other paper products. Giant tractors, with arcing jaws loaded with limbless trees,

scurry through Foss Marine's timber yard. From a distance, they look like yellow beetles carrying bundles of twigs.

Where the coast gently veers west-southwest, a huge portable oil derrick with barber-pole striped legs looms high against the green, wooded hills that stretch toward Mukilteo and the Whidbey Island ferry landing.

Directly at the base of the cliff, hugging the waterfront, the tracks of the Burlington Northern Railroad trail off as far as the eye can see. The railway has been Everett's life-giving artery. Without it, the town would be much younger and much smaller.

What is now Everett was a lonely trading and logging outpost for the first 100 years after its "discovery" in 1792. British explorer George Vancouver sailed into Port Gardner Bay, claimed Puget Sound for his king and sailed back out. Nothing much happened for the next 70

**With nearly 2,300 berths, Everett's busy marina is the second largest on the West Coast.**

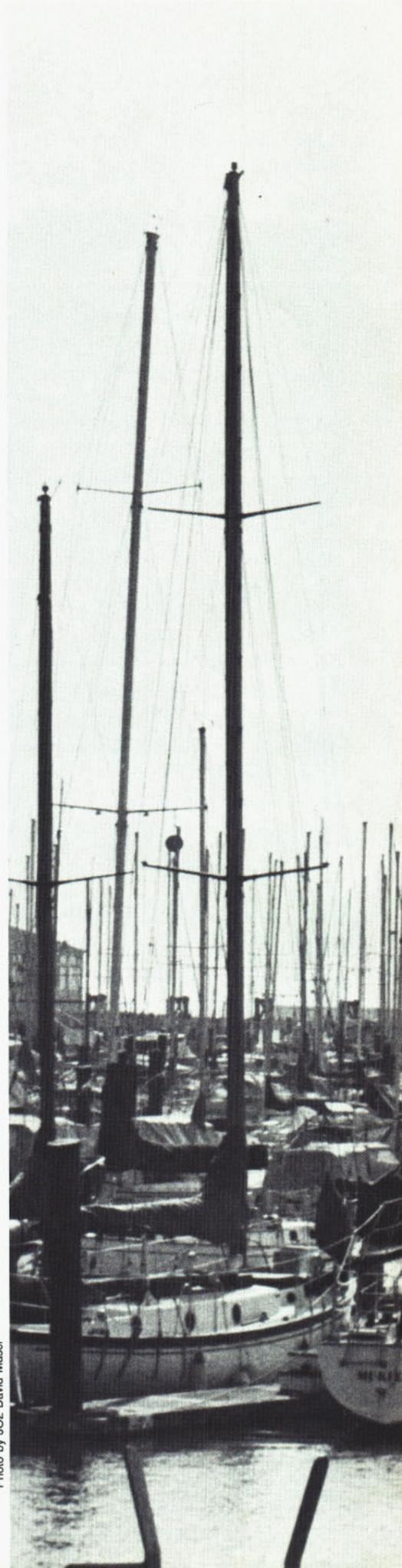


Photo by JO2 David Masci





Photo by PH2 Nilo Davila

**Nimitz, now temporarily homeported in Bremerton, will move to Everett in 1992.**

years; an 1862 count listed 45 white men living among the small Indian tribes in the area.

But, all the while, the railroads were working their way west. In the 1880s, the Northern Pacific Railroad linked the Great Lakes to Puget Sound at Seattle, 30 miles to the south. Oil baron John D. Rockefeller entered into a partnership with Northern Pacific's competitor in the region, James J. Hill's Great Northern Railroad. That prompted a frenzy of growth leading to Washington's statehood in 1889.

Pioneer Jane M. Rucker and her two sons were attempting to develop "Port Gardner" until August 1890, when they learned of Hill's plan to extend his tracks down the Cascade Mountains smack into the bay.

Tacoma lumberman Henry Hewitt Jr., spearheading the Eastern industrial establishment's efforts in the area, bought half of Rucker's 800-acre claim in the

fall of 1890 and laid out a map of what would become Everett.

A November 1891 photograph shows only scattered one-story wooden slat shops and cottages on Hewitt Avenue, surrounded by a field of uncleared stumps. But by 1893 the town boasted five schools, three newspapers, eight banks, six churches, a three-tiered theater

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*Most people believe it rains a lot in Everett. They are right, but they are also wrong.*

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and a population of 5,452.

But those earliest residents did not own the land they lived on. The Everett Land Company held all titles. The squarely laid-out blocks downtown were defined by streets that still bear the names of investors in the company: Rucker,

Hewitt, Hoyt, Wetmore, Oakes, Colby and others. The town was named after Charles Colby's son, Everett.

Rockefeller pulled his money out in 1893, causing panic as land prices dropped (his name was left on one of the streets anyway). Hill and Hewitt took over and sold their land, parcel by parcel, at a tidy profit. The new town's economy was solidly based on the labor-intensive industries that lined the entire waterfront — logging, fishing and ironworks.

But the logs kept getting smaller, the fishing fleet moved north and the mines petered out. The economic emphasis shifted.

Mayor Bill Moore, 66, has lived in Everett since he was four. "In my life, the city has changed three times," he said. "In the early days we had fish canneries, nail factories, shingle mills and some lumber mills. We had a tremendously large fishing fleet.

"We moved from that era into sawmills and pulp and paper mills. Today, just about all of our wood product industries have disappeared. We can actually export timber to Japan and buy the raw lumber back cheaper than we can produce it here."

In the last 20 years, the industrial base has centered around high-tech aerospace manufacturing and electronics. "We have Hewlett-Packard, Honeywell, John Fluke, and, of course 'Boeing' is not a strange name to anyone in these parts," Moore said. "They now employ more than 12,000 people out here."

"The void we had was on the waterfront. Three quarters of the land set aside for industrial and harbor use has been vacant since it was developed by the Port of Everett." As the mills and canneries and factories closed, they left gaps along the shoreline.

One 117-acre gap lies between the marina and the Scott paper mill. The pork chop-shaped parcel fronts Marine

View Drive at the foot of the bluff and hooks left to surround a small harbor on three sides. The Navy is building a home port for 13 ships there. Those ships will make up a battle group led by USS *Nimitz* (CVN 68).

Everett will be quite a bit different from *Nimitz*'s previous home port. Rand McNally ranks the town 395th in population in the country at 58,000, right behind Great Falls, Mont. Norfolk and Virginia Beach, Va., combine for a population of well over 500,000.

Most people believe it rains a lot in Everett. They are right, but they are also wrong. It rains an average of 158 days a year, mostly between October and March, but Norfolk gets seven inches more rain a year, even though it gets over a month more sunshine.

Everett is warmer than Norfolk in January and cooler than Norfolk in August. Everett has less sunshine, Norfolk has more wind and more sub-freezing weather.

After a July morning swim in Puget Sound, you can drive in less than two hours to the perennial ice at Glacier Peak (elev. 10,436 ft.) and put on your skis for a couple of afternoon runs.

The people who live here are politically outspoken, environmentally conscious and fiercely patriotic. "Since World War I, we've had a Navy ship in for every 4th of July," said Moore.

Whether for strategic, patriotic or economic reasons, two-thirds or more of local, county and statewide residents in every poll taken welcome the Navy's arrival in Everett.

The major sticking point with environmental groups is dredging the harbor, which has been contaminated by a century of industrial pollution. The Navy has proposed "confined aquatic disposal" at the bottom of Puget Sound.

The process involves moving 486,000 cubic yards of contaminated sediment by

barge out to where the water is 400 feet deep and capping it with a layer of clean sediment. The Army Corps of Engineers has successfully used this method in shallower water elsewhere. The U.S. Environmental Protection Agency has approved the project, but has insisted on closely monitoring the operation.

"Some of the environmentalists have



Photo by JOE David Masci

**Everett's trolleys are very convenient and a favorite with tourists.**

real concerns, and I think they've helped us as we've progressed," said Everett homeporting coordinator Capt. J.E. "Rock" Roth. Roth said the Navy submitted a three-volume environmental impact statement addressing all aspects of the home port, which was supplemented by one Washington state and one Army Corps of Engineers study incorporating changes to the initial EIS.

"We will cut a hole in the breakwater to allow salmon fingerlings to swim through," said Roth. "We have windows in the wharf to allow light to get down to the fingerlings and other aquatic animals. The Navy has been extremely sensitive to environmental concerns all the way through."

All the Navy's existing ports capable of berthing supercarriers were well established before the ships were built. They merely needed to be improved with deeper dredging, longer piers and more shore services. In fact, most of those ports were there before their neighbors, and the surrounding communities developed around the Navy.

Not so in Everett. "We're constrained by how much real estate is there," said Rear Adm. J. Paul Reason, commander of Navy Base Seattle. "We can't make it grow. There's Scott Paper on one side, Marina Village on another side, a street and a steep bank."

Responsible for fleet support activities in Washington, Oregon and Alaska, Reason calls himself the "point man" in establishing the new port. He is the link between the Navy and the various federal, state and local government agencies affected by the construction of an entire naval station and the infusion of around 15,000 people into the surrounding area.

Between now and 1992, the planned port completion date, *Nimitz* and 12 other ships will arrive in Everett. That means 11,000 government jobs with an annual payroll of \$391 million. The Navy will spend \$20 million per year on supplies and services. In addition to the \$272 million start-up construction cost, ships based in Everett will need \$190 million worth of repairs each year.

"We are starting a relationship that will endure for a long time between the people of Everett and Snohomish County and the United States Navy," said Reason, "so we have started on a foundation of full information, truth and honesty. If we started in any other way, we would be mortgaging the future of the fleet sailors who will call Everett home."

Everett will be home to an estimated 8,000 sailors and their families. The base's size prohibits on-base housing except for barracks, so all sailors and

# Coming home

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civilian employees will have to find a place to live in town. Current estimates forecast a demand for 4,650 houses and 3,970 multi-family dwellings over the next five years, with 7,000 of those units required in 1991-1992.

The Navy is moving into an area whose population is already rising 250 percent faster than the national average. "Everett is having growing pains," said Tom Burns, executive vice president of the Everett Chamber of Commerce.

"Even before the home port was announced, Snohomish County had the highest number of residential housing starts in the state," Burns said. He cited prices as one reason.

Sample listing, San Diego: "New construction, 15 minutes to Navy base, 3br, 2-car gar., 1,200 sq. ft., skylites, lrg yard, hilltop lot, \$103,000."

Sample listing, Everett: "New construction, 15 minutes to Navy base, 3br, 2ba, 2-car gar., 1,100 sq. ft., skylites, wood stove, \$66,950."

Sample listing, San Diego: "Custom home, 1,900 sq. ft., 4br, 2ba, fireplace, beamed ceilings, breakfast nook, landscape w/patio & trees, \$159,000."

Sample listing, Everett: "Old world charm, 2,100 sq. ft., 4br, 2-story, 1-1/2 ba, family room, full basement, beamed ceiling, french doors and leaded glass, \$76,500."

Both Moore and Burns believe the housing market will be able to accommodate the new arrivals. "We have ample room for expansion in and out of the city," said Moore. "It'll be no problem to develop the housing once we know what the demand is going to be."

Ten school districts around Everett will be affected by the influx of 4,000 students, but Superintendent of Schools Rudy Johnson said he can't build or expand schools until the students arrive. "It's not clear where they're going to live or what age group we're contending with," he said, "so the construction will

probably follow the youngsters in part."

Johnson's district has grown steadily in his 16-year tenure as superintendent. There are 12 elementary schools with between 350 and 800 children and three middle schools (grades 6-8) averaging 900 students. Everett High School has an enrollment of 1,600, and Cascade High,

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*"When we start talking about porno shops and topless dancing, I'm not sure we can blame that on the fleet . . . they're all over the world, and they're only as much of a problem as you allow them to be."*

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with 2,100 students, is the largest high school in the state.

Even without the Navy students, the district is growing by about 1,200 students per year. According to Chuck Patten, director of community relations for the 14 Snohomish County districts, that translates into two new elementary schools or one high school each year.

"The building we're doing is construction we need without the Navy," said Johnson. "We are now using 55 portable classrooms." Patten said every district in the county except one is in the same boat. Voters in most districts have passed bond issues, financed by property tax increases, to pay for enough new or remodeled schools to get all children into

permanent buildings by 1990.

Johnson said the plan will free up his portables for temporary use until the district can assess where more building will be needed to house the children of Navy families.

When the families and single sailors want to get away for a few hours or a weekend, they're in the right place. Most of the 26 area parks are within Everett city limits. Forest Park's 111 acres offers a heated indoor pool with sauna and spa, hiking, horseshoes, softball, tennis, picnic areas and a barnyard-like animal farm. Of the two public 18-hole golf courses, one is a five-minute drive from the proposed base.

Restaurants and nightclubs with live or recorded music can be found throughout the community. Marina Village, sandwiched between the base and the marina, is a block-sized mall of shops and restaurants featuring Dungeness crab and other local seafood specialties. Weekend dancers above the legal age of 21 can enjoy disco at Pelican Pete's or walk over to Bacchus by the Bay for live jazz on the waterfront.

Downtown, the under-21 crowd boogies at non-alcoholic Buzzy's on Broadway. A couple doors down, Steve Mack manages a back room soda fountain at Joe's Off Broadway, with pool tables, video games, a pancake-sized "Keg-burger" and a jukebox loaded with rock and roll from the '50s to the '80s.

Inside the lime-green walls plastered with movie and pop star posters, Steve's rules are simple: "No drugs, no booze, no fights. And if you swear — especially the 'f' word — it costs you a quarter."

If you have no car, 30 cents will get you on the Everett trolley from Marina Village to the downtown transit hub at Hewitt and Hoyt St. From there you can transfer free to any one of the bus lines that criss-cross the town from the river to Everett Mall, at the southern city limits.

Big-city entertainment, such as concerts, major league sports and cultural events, are a half-hour's drive on Interstate 5 to Seattle. Roaring Seahawk fans have given the King Dome its distinction as the National Football League's loudest stadium.

Sailors will not find the level of on-base recreation and services they were used to in ports like San Diego or Norfolk. The \$272 million spending cap imposed by Congress will pay only for piers, utilities, ship support services and barracks, plus some limited on-site athletic facilities.

The Navy is relying on its existing support network in Puget Sound to meet some of the incoming sailors' needs. The Family Service Center at Naval Station Puget Sound (Sand Point) in Seattle will add Everett sailors to its client list. The nearest exchange/commissary is also at Sand Point, 25 miles from the new base.

The Naval Station's new commanding officer, Capt. Eugene Dvornick, is exploring ways to meet the Navy community's recreation needs within the civilian community. He said the Navy is considering joint efforts with Everett Community College, the YMCA, the public school system, the library and civilian businesses such as bowling alleys and golf courses. Dvornick and his staff envision recreation arrangements that do not use any of the base's limited space.

Some anti-home-port voices in the community have tried to play on people's fears of beer-swilling sailors cruising through a red light district formerly called downtown Everett. While admitting there is some apprehension about the behavior of large groups of sailors and the type of business Navy ports traditionally attract, the mayor brushed aside fears of "strip" development outside the base.

"When we start talking about porno shops and topless dancing, I'm not sure you can blame that on the fleet," Moore



Photo by JO2 David Masci

said. He noted there are some of each already in and around Everett.

"They're all over the nation and all over the world, and they're only as much of a problem as you allow them to be," he said. Everett has a zoning ordinance that mandates a certain distance between businesses which are similar, and Moore said he doesn't think the townspeople would accept strip development downtown.

In his speeches to local citizens' groups, Roth said he emphasizes his own experience as a family man and a Navy man. "Having been in the Navy for 29 years, I've been involved in Boy Scouts, churches, Little League baseball, basketball and football all the way along," he said. "In Europe, we had a single sailor, a former Eagle Scout who served as troop leader. This is the type of benefit the community will reap because of the Navy being here."

Moore said he's not greatly concerned about the effect the Navy will have on public safety. "I realize we're going to

**Capt. J.E. "Rock" Roth, Everett home port coordinator, shows where *Nimitz* will eventually move.**

have to add more fire and police protection," he said. "It's not because there's more crime, there are just more people we have to oversee."

Roth said the Navy population is representative of the nation as a whole. "I think most of the local people are intelligent enough to realize that the Navy is made up of their sons and daughters," he said.

Over the next five years, the citizens of Everett are going to be wondering what it will be like when 11,000 of their sons and daughters come home and bring the grandchildren.

If careful planning and good community relations make any difference, it should be a happy homecoming. □

*Masci is assigned to NIRA Det. 5 in San Diego.*

# NavElex

## The Navy's repair shop

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*Naval Electronics Systems Engineering Center, San Diego works on everything from SatNav to 40-year-old teletypes.*

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Story and photos by JO2 David Masci

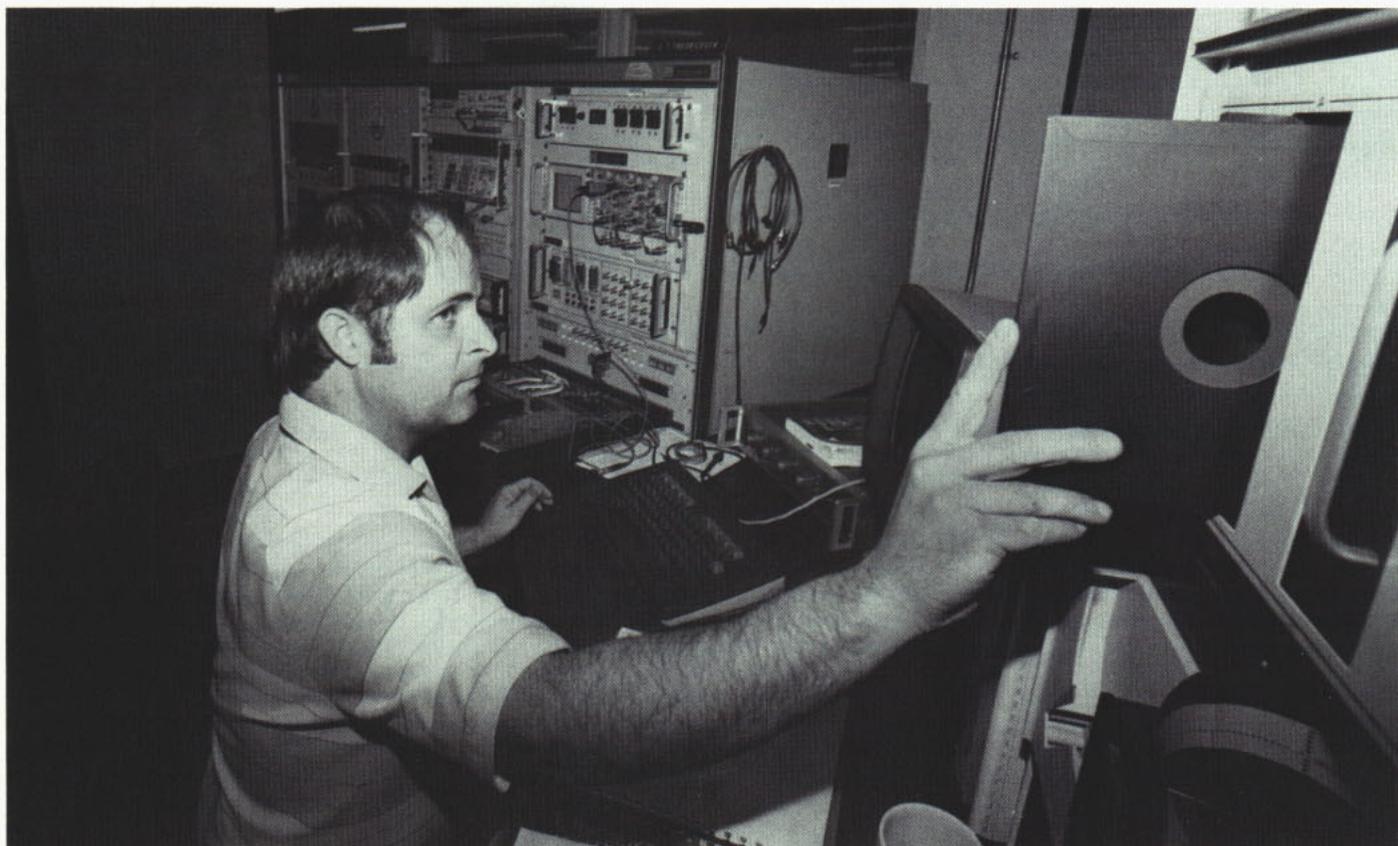
Tom Oles lowered his glasses from his forehead to the bridge of his nose and squinted at the tiny resistors and soldered connections on the 6-by-8-inch circuit board. His familiar friends, the internal organs of a Mod 28 teletypewriter, strewn over his workbench, hadn't changed much since the first time he took a screwdriver to them in 1950.

Across the alley that separates two of the eight buildings at the Naval Electronics Systems Engineering Center, near San Diego airport, Steve Fredricksen inserted a microchip-studded problem child into his ADATE 1500 circuit board tester. Within minutes, the 15-foot-long computer would tell him with 95 percent probability which five of the board's

hundreds of chips were most likely to contain the fault.

The engineering center, "NavElex" for short, has grown from a small, 80-man calibration and repair shop in 1966 to a 350,000-square-foot complex in a remodeled airplane factory that houses 625 civilians and 40 sailors.

The scope of the NavElex mission has



broadened along with its physical growth. "When I first came into the Navy, equipment wasn't nearly as complex," said Commanding Officer Capt. Stephen T. Howard, who started his career 30 years ago as an ETSN on the research ship *USS Compass Island* (YAG 56).

Howard remembered his standard troubleshooting kit: an oscilloscope, a voltmeter and a signal generator. "Now there are more complex electronics on board ship," he said.

"A good example is your television set," Howard explained. "It used to have 17 to 19 tubes. Now the average set has thousands of tube equivalents. That's comparable to what's happening in electronic systems."

As the fleet support arm of the Space and Naval Warfare Systems Command, NavElex San Diego and three other engineering centers provide "cradle-to-grave" service to navigation, communications and electronic support measures equipment. The client list includes the ultra-accurate NavStar global positioning system for satellite navigation as well as sensitive electronic "ears" such as the surface outboard and submarine *Sea Nymph* systems. Not confined to the cutting edge of technology, NavElex's responsibilities span the electronic maintenance range from SatNav communications systems down to the basic teletypewriter.

The ol' Mod 28 was scheduled to be phased out of the fleet in 1985, but the teletypewriter's service life was extended at least 10 more years. Consequently, all the commands that had been hanging on to their old systems waiting for an upgrade needed their Mod 28s overhauled.

Oles and his seven colleagues in the teletypewriter repair shop have spent 10 hours a day, six days a week since March 1987 working feverishly to keep up with fleet demands. The seven men and one woman have, combined, 197 years of ex-

perience on the Mod 28 teleprinter.

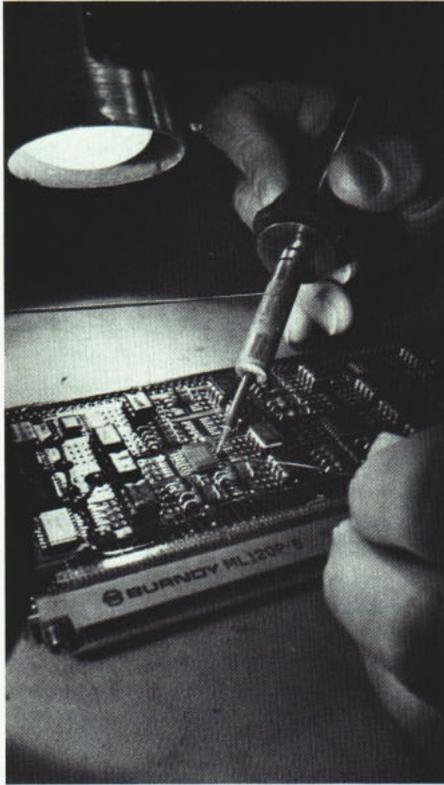
Remarking on the heavy workload, Howard once jokingly asked overhaul depot head Chobby Betts, "What are you doing with my dinosaurs? They're the last of a dying breed!" The nickname stuck, and references to dinosaurs are sprinkled throughout the shop, from the "Dinosaur Alley" street sign on the front door to the pictures of dinosaurs glued to the back of the technicians' NavElex identification badges.

All humor aside, the command's goal is to get sophisticated electronics gear into the fleet and keep it there with as little down time as possible. Rather than have a ship remove a faulty piece of gear and send it back for repairs, NavElex offers two other options: package its expertise and send it in the form of automated test equipment or have a tech rep visit the ship.

"We have all kinds of responsibilities all the time," said Jim Sperbeck, head of the NavElex shipboard communications division. "We've got both the in-



**NavElex technicians troubleshoot a wide range of high-tech electronic equipment at their San Diego-based complex.**



house capability and the contractor availability.” He said shipboard technicians or lower-level maintenance shops can handle 99 percent of the equipment breakdowns in the fleet.

Sperbeck said he tries to run his division like a small business by being responsive to short-fuse requirements.

“We’re the last line of defense,” Sperbeck said. “By the time a problem gets to us, it’s close to deployment time.” Sometimes problems have to be dealt with even past deployment time. Sperbeck told a story of one technician whose local address between fleet jobs, deployments and overseas trips was a hotel just down the street since he wasn’t in town long enough to rent an apartment.

Another NavElex employee who is equally dedicated, but in a different way, is detective Bob Simmons. A retired

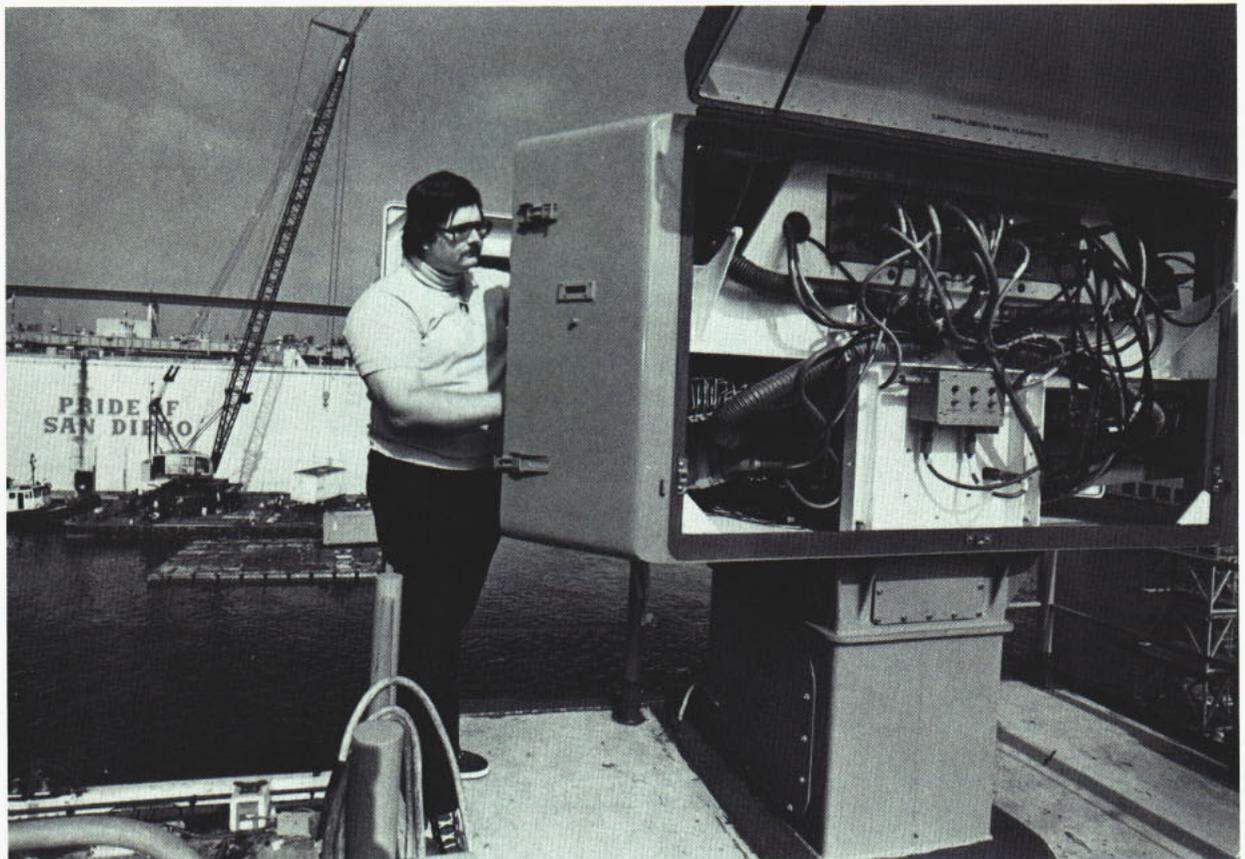
**An electronics technician works in the minute world of a circuit board (left). Ralph Price (below) fine tunes a ship’s electronics gear.**

senior chief petty officer, Simmons has spent the last three years tracking down overpriced spare parts in the Navy supply system.

Simmons and two assistants track leads supplied by other NavElex employees who order supplies for repair work. “The technicians identify items for us because they work with them every day,” he said. “They know a 50-ohm dummy load shouldn’t cost \$1,000.”

The three sleuths don’t expect to run out of work soon — so far only 350 of the 200,000 items in the system have been scrutinized. Simmons keeps a binder of his most outrageous finds, a sort of “rogues’ gallery.” Among them is an \$874 bicycle chain. Renamed a “power amplifier drive tune mechanism,” the culprit is found in every shore communications station transmitter in the Navy.

Thanks to the NavElex trio’s efforts, the Navy has saved \$15 for every dollar spent on the program, and Simmons estimates \$3.5 million in savings in fiscal



Playing a "detective" role, R.J. Simmons contemplates a faulty gasket. A NavElex librarian (below) scans a microfiche catalog.

year 1987. Simmon's pleasure at the group's success is obvious. "I've been around the Navy since 1943, and this is one of the first overt steps I've seen the government take (against spare part overpricing)," he said.

Even the computer programmers who spend six to 12 months hunched over diagrams and keyboards designing software for ships' missions share in the sense of accomplishment that permeates NavElex San Diego.

Doug Jedlicka, head of the space and surface support department, said newspaper reports of Navy operations in the Persian Gulf have boosted his workers' morale. "When the people saw a ship they'd worked on for six months on the front page, that really had an impact," he said. "Computer operators, though



far from the fleet, had the satisfaction of knowing they had programmed that ship."

Howard said even the men and women of NavElex who aren't former sailors feel they are part of the Navy team. "We're

not obvious, we're not flashy," he said. "We're just 650-plus people who are motivated to quietly do a good job for the fleet." □

*Masci is assigned to NIRA Det. 5 in San Diego.*



## Expects highest standards

# SecNav challenges Navy's leaders

Story by JO2 Mike McKinley

During a recent visit to the U.S. Naval Academy in Annapolis, Md., Secretary of the Navy James H. Webb Jr. addressed the young men and women of the Brigade of Midshipmen and expressed his thoughts on what it takes to become a leader, what a leader does and what qualities a leader must possess.

Webb defined true leaders as those who set the example, through the strength of their convictions and personalities. The best leaders make decisions, have a clear sense of mission and are able to express it. They have the courage to do what is right and to make sure that those who are under their authority do the same. They must be a comrade, a judge, a tutor and problem solver.

Webb said that the leader "creates the right tone, one of fairness and good will, which allows creativity to flourish from below," and each leader must understand loyalty and must be aware that loyalty sometimes calls for disagreement, even with one's own superiors. Webb pointed out that a leader must not only be an intelligent, thinking person but must be able to act as well. He reinforced this point with a quote from a book written by Gen. George Patton in 1931 entitled *Success in War*. In that book, Patton pointed out that "high academic performance demands infinite, intimate knowledge of details, and the qualities

requisite to such attainments often inhabit bodies lacking personality. Also, the striving for such knowledge often engenders the fallacious notion that capacity depends upon the power to *acquire* such details rather than upon the ability to *apply* them. . . . And yet volumes are devoted to armaments and pages to inspiration."

Leaders, Webb said, must get the job done and still take care of their people. He remarked that military leaders, especially in a combat situation, will have to judge themselves against two harsh and often painful standards: Did they get the job done? How many people did it cost? Getting the job done is rewarding but the price that may have to be paid can be painful.

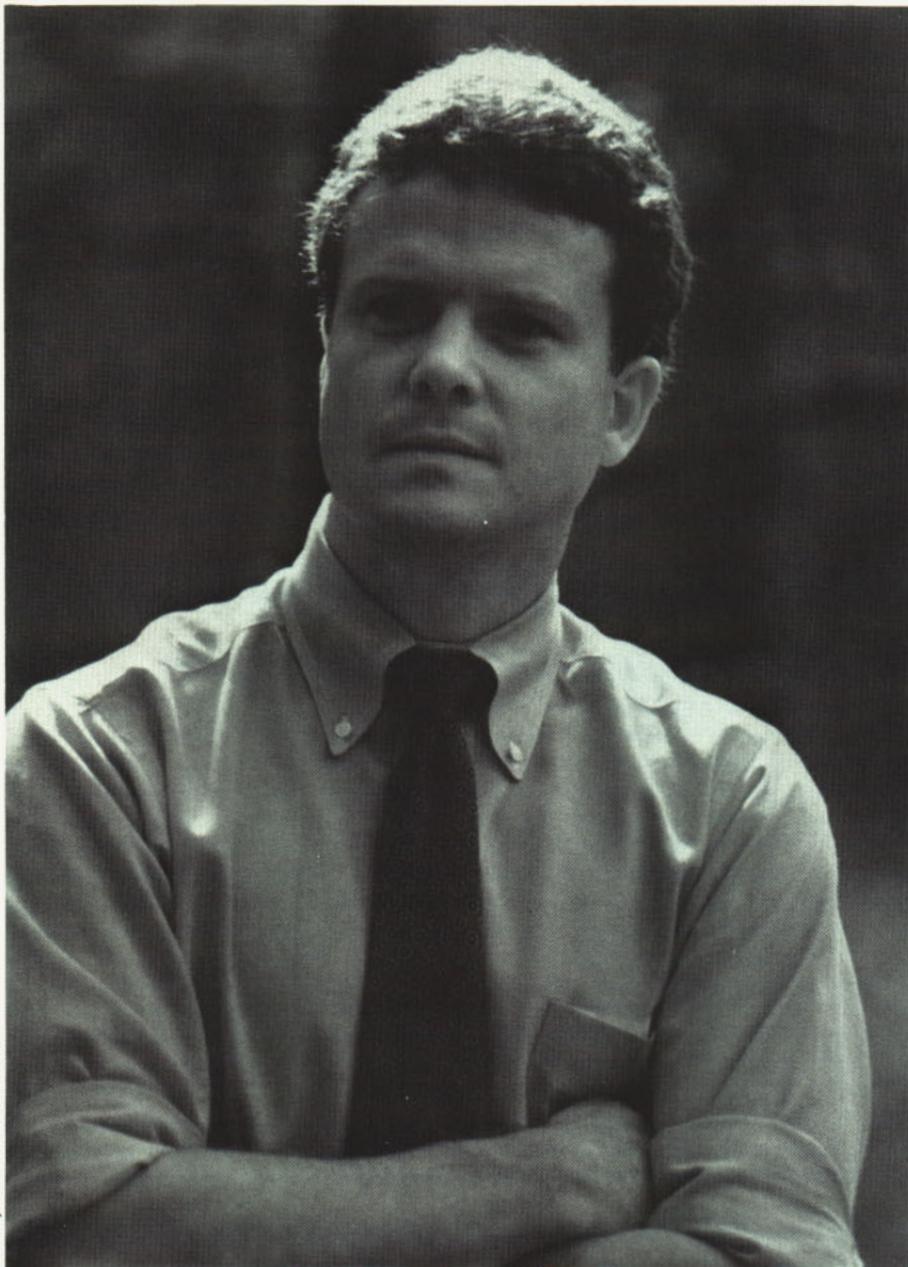
During the address, Webb noted that there are some people who claim that there are no specific traits common to most leaders. Webb disagreed. He said, "a true leader must set the example. You cannot ask of your subordinates that which you do not demand of yourself. And one who does not set the example will never be respected." He added that such a person might be obeyed but will not be followed.

A leader must also possess knowledge in a variety of forms, Webb said. "Leaders must understand the intelligence level of their unit, the technical

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*"A true leader must set the example. You cannot ask of subordinates that which you do not demand of yourself."*

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*“Humility before one’s subordinates invites both loyalty and respect.”*

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aspects of the mission, the capabilities of the weapons systems and machinery, and the responsibilities of their subordinates.” He went on to say that a leader must understand human motivation in order to create an attitude for success among the troops. Just as importantly, an effective leader must understand the system under which those troops are working, whether a rifle company or Pentagon staff, in order to get things done.

Webb observed that leaders must be individuals of excellent character. They

must be honest in their dealings with both superiors and subordinates. “Honesty begets honesty,” Webb said. “To the contrary, a person who will manipulate a superior invites subordinates to manipulate him. A person who will manipulate or lie to a subordinate invites disloyalty and lies in return.” Webb went on to say that courage, both moral and physical, is a character trait that can infect others. “Humility before one’s subordinates,” Webb said, “invites both loyalty and respect. A leader must be true to himself and be confident in his own

personality.” He defined this as “style,” and went on to say, “If your natural personality is quiet, develop firmness, rather than trying to convert yourself into an extrovert.” On the opposite side, Webb suggested that the more extroverted person should learn to be positive and be a motivator instead of trying to be passive and calm.

Always be yourself, for, as Webb commented, “Your troops can pick up false behavior in a heartbeat.”

Webb emphasized that a true leader must have the ability to communicate to his people what they are doing, why they are doing it and how it fits into the overall scheme. He explained that this requires an understanding of the traditions and heritage of our military and country and being aware of the events above one’s paygrade. “Put together,” Webb said, “a leader gives meaning to the activities of his people and this itself gives a unit a sense of mission and momentum.”

Webb closed by characterizing the sailors the Navy’s next leaders can expect to work with: “The young men and women on duty are superb. They are tough and they are dedicated and they are good, and they’re going to expect you to be tough and dedicated and good.” □

*McKinley is a staff writer for All Hands.*

## Coral Sea's laundry

# Keeping it clean

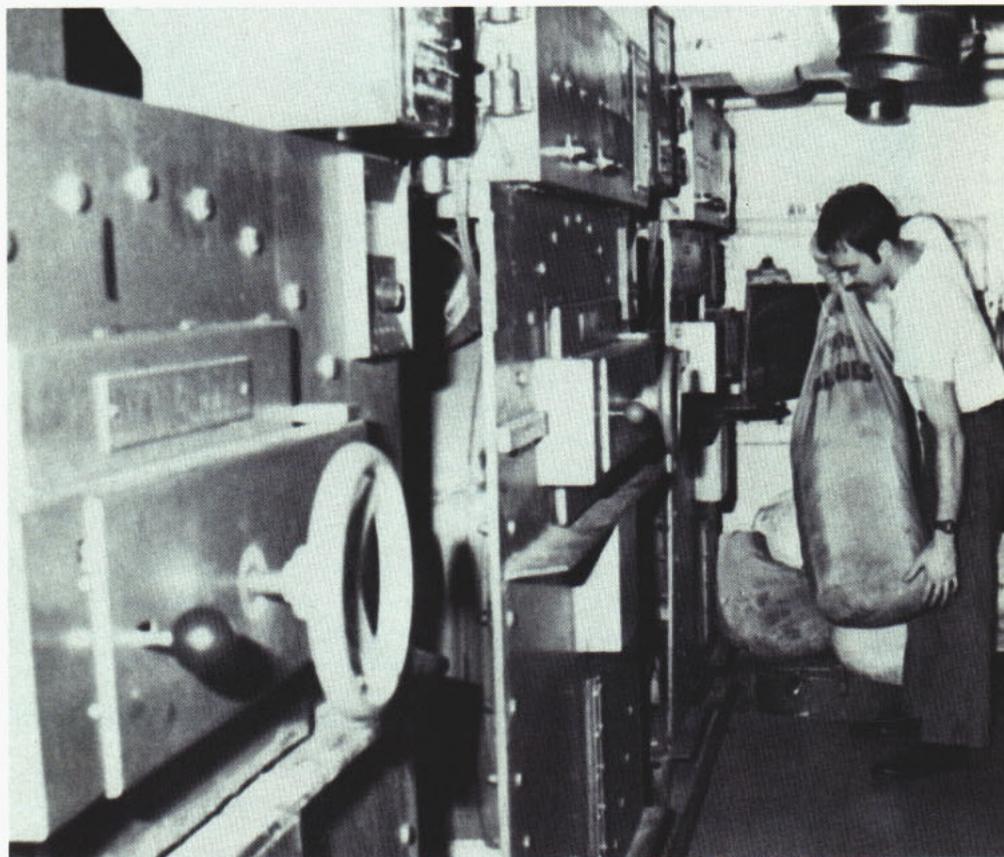
By JO3 Gilbert W. Porter

When sailors go to sea, they leave behind many of the conveniences of modern living. One aspect of their lives doesn't change, however: they still need clean clothes, and there's no way to stop by the local laundromat.

On board the Norfolk-based aircraft carrier USS *Coral Sea* (CV 43), the ship's Laundry and Dry Cleaning Division keeps its sailors looking squared away. Clean, fresh uniforms go a long way toward enhancing morale, and the men in the "Ageless Warrior's" laundry spaces take their job seriously.

They have to, for they typically receive about 8,000 pounds of laundry daily when the ship is at sea. This would be the equivalent of a housewife doing more than 300 25-pound loads of laundry per day in a conventional machine. The seven ship's servicemen in the laundry, plus eight others assigned from the carrier's air wing, work two 12-hour shifts to provide a 24-hour service to do the crew's wash.

Ship's Serviceman 2nd Class William H. Wood, the laundry division supervisor, compares the carrier's laundry capabilities to that of a "small Navy exchange." Wood, 36, who comes from Upland, Calif., has been the laundry supervisor for two years. He said the men in his division are capable of handling any work request. "We provide all the services of a commercial laundry," Wood said. In addition to the main laundry, which services the crew and officers, there is also a dry-cleaning plant for dress uniforms, and a tailor shop, where a sailor can have uniforms altered,



hemmed, or have a button replaced.

The main laundry consists of two large work rooms. One room contains 14 steam presses, the other contains steam and low-pressure washers and dryers. There are two 60-pound washers, four 200-pound washers, five 100-pound dryers and three 50-pound dryers.

The six washers and eight dryers, driven by steam, produce high temperatures, and Wood noted that it's normally 85 or 90 degrees in the laundry, a situation he calls "bearable" for the men.

Besides the high temperature, a "hot" sailor upset about a missing piece of

laundry can also bring things to the boiling point in the laundry. Wood noted that every item brought to the laundry is accounted for. Divisional laundry bags are weighed and logged out when picked up. Each item turned in by officers and chief petty officers is hand-sorted and noted on the turn-in sheet. Even with this meticulous accountability, an item may vanish or be destroyed by the machinery. When this happens, the sailor is reimbursed for the lost item.

Still, Wood said the advantages of working in the laundry outweigh the drawbacks. "I like working here," he

A team of 15 men does enough laundry to clothe the entire population of a small city — about 8,000 pounds daily aboard USS *Coral Sea*.

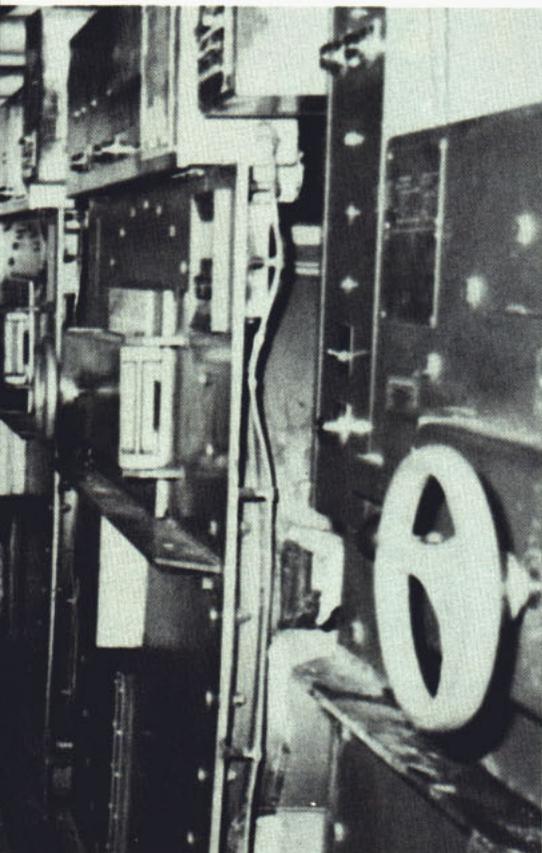


Photo by PH3 Mike Skeens



Photo by PH3 Mike Skeens

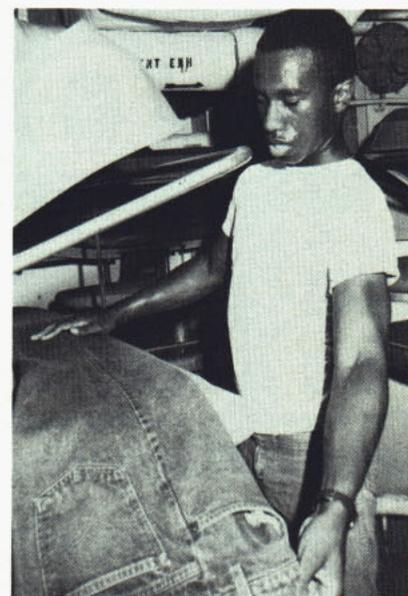


Photo by PH3 Mike Skeens

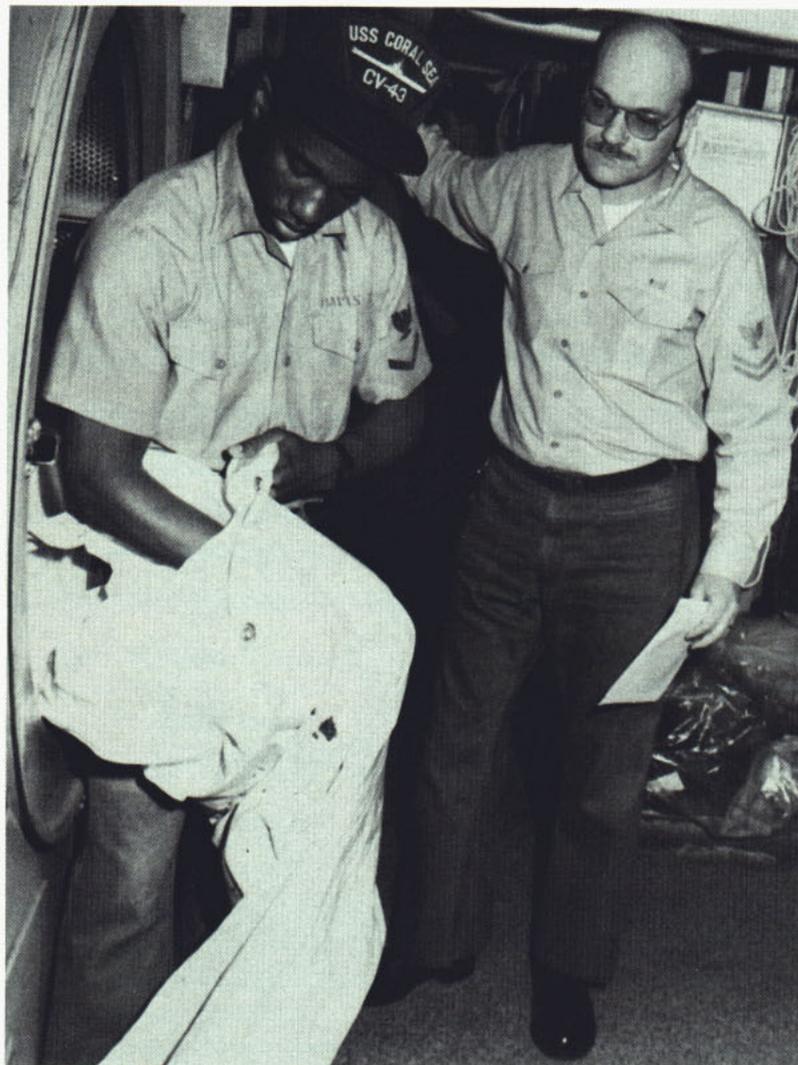


Photo by PH3 Patrick Gallagher

said, “because everybody on the ship knows me. I like dealing with people, and there’s a great deal of job satisfaction.”

Even though it is a huge operation, the men in *Coral Sea*’s laundry take pride in their work. Wood said he likes it best when the machines are humming and the work is getting done. “I like to keep busy,” he said.

And with nearly four tons of laundry a day, *Coral Sea*’s Laundry and Dry Cleaning Division is certainly busy. □

*Porter is assigned to USS Coral Sea.*

# Project Sea Mark



Story by Lt. Cmdr. Tracy Connors

**N**avy reserve divers recently completed a four-year undersea survey and mapping effort — Project *Sea Mark Pacific*. This joint U.S. Navy/U.S. National Park Service endeavor has provided a wealth of historical and ecological information on significant Pacific Basin

shipwrecks. The wrecks, or “artifacts,” as researchers refer to them, are USS *Arizona* (BB 39) and USS *Utah* (AG 16) in Pearl Harbor, Hawaii, and several Japanese and German ships from both World Wars resting on the bottom of Apra Harbor, Guam.

Nearly 400 dives, many of them

deep dives exceeding 100 feet, were conducted without a single mishap during the four-year period. Naval reservists of Mobile Diving Salvage Unit One came from Hawaii, California and Texas to perform the majority of the dives as part of their annual active duty for training. MDSU



Photo by Lt. Cmdr. Tracy Connors



Photo by Lt. Cmdr. Tracy Connors

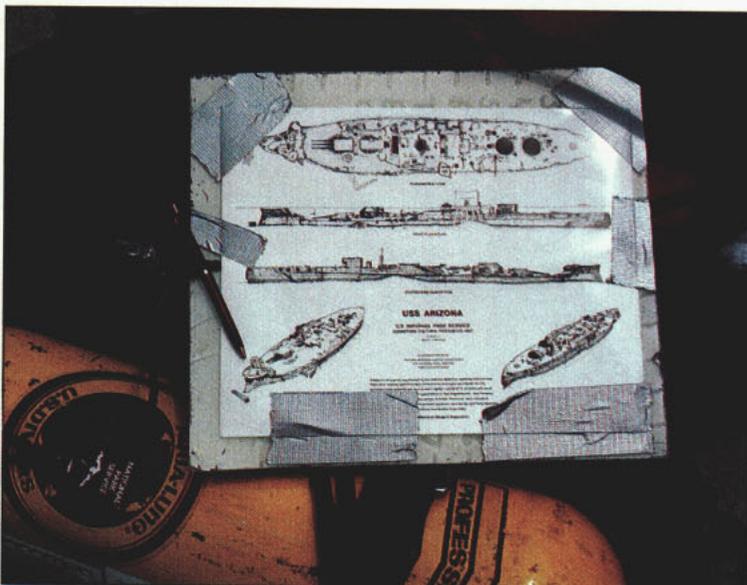


Photo by Lt. Cmdr. Tracy Connors



Photo by Lt. Cmdr. Tracy Connors

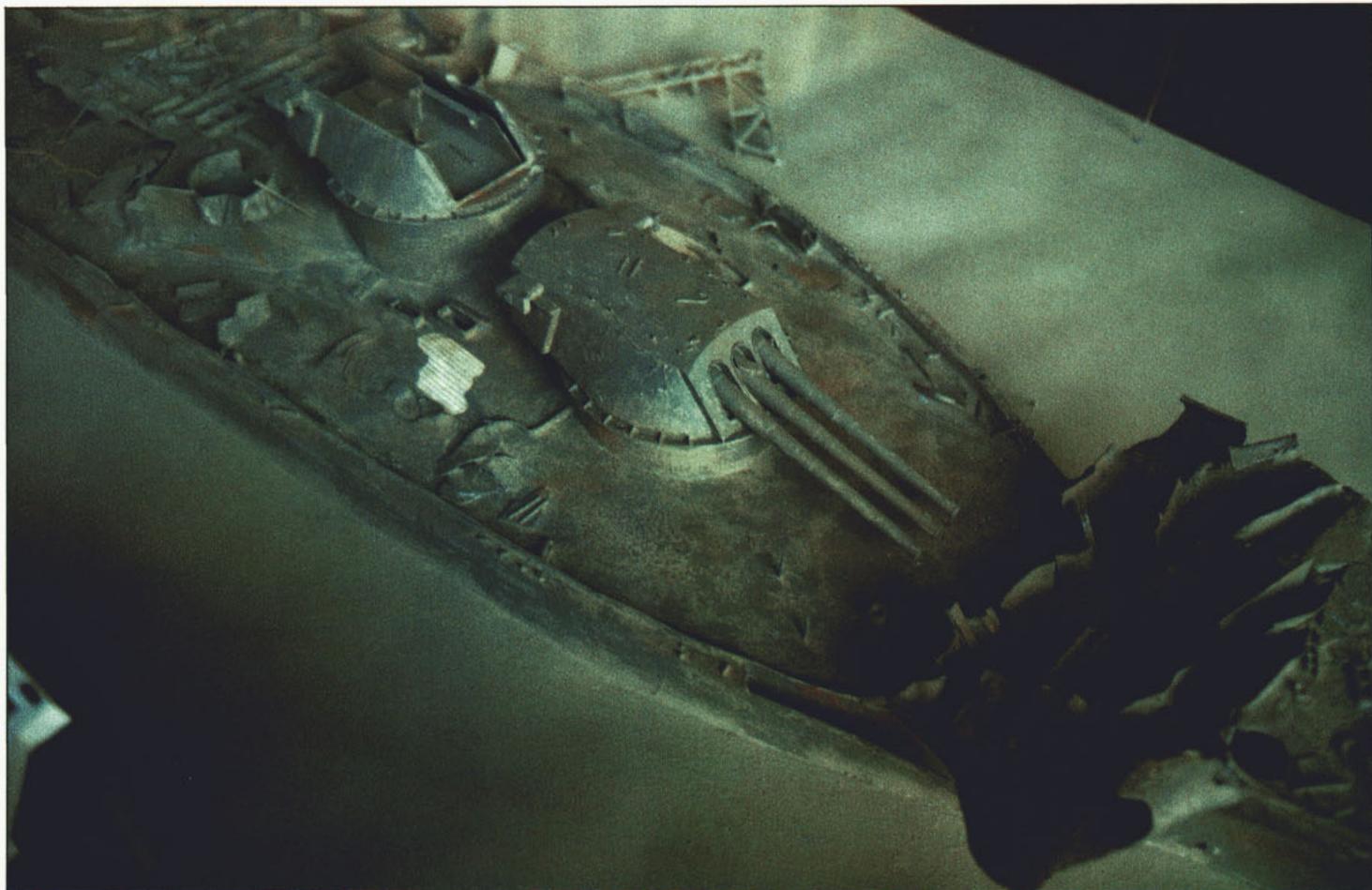


Photo by Lt. Cmdr. Tracy Connors

One is based in Pearl Harbor.

*Arizona* and *Utah* are the only ships still submerged at Pearl Harbor as war memorials. The Park Service shares custody of *Arizona* with Commander, Naval Base, Pearl Harbor. In Guam, the hulls studied included a World War I German merchantman, *Cormorant*, and two Japanese merchantmen sunk by U.S. fighter aircraft during World War II, *Tokai Maru* and *Kizugawa Maru*.

MDSU One's Naval Reserve Detachments 319 (from Long Beach, Calif.), 620 (from Pearl Harbor), and 110 (from Corpus Christi, Texas) performed most of the dives. They were assisted by active-duty divers from Ship Repair Facility, Guam and MDSU One itself.

"The Navy is doing things that are enormously important to history, not just military training," explained Bryan

**Prior to a survey dive (above, left), divers from MDSU One go over charts with U.S. Park Service personnel (left) on USS *Arizona*. Using architectural drawings (far left), they gather details used to make exact models of sunken wrecks (above).**

Harry, Director, Pacific Parks, U.S. Department of the Interior. "Of course, they are conducting some outstanding training as well. It is as close to the real thing that these divers would do if they had to conduct salvage ops in wartime or a national emergency," he said.

"There is an enormous wealth of knowledge here that ought to be as carefully and scientifically documented as is done with land site archeology," Harry said. "Many of the underwater sites have far more to offer in terms of knowledge about the past than perhaps land sites. The story just doesn't stop at mean high tide — in many cases, a far more important story lies just beneath the surface," he added. "Many myths can be corrected."

The U.S. Department of the Interior has responsibility for protecting, and interpreting to the American public, historic sites throughout the United States and its trust territories. Underwater sites, particularly shipwrecks, are an important component of the department's resource base.

Underwater historic sites present a

wide range of new challenges to park professionals as John E. Cook, Park Service Southwest Regional Director pointed out. The Park Service's Submerged Cultural Resource Unit is supervised by Cook. That unit was established in 1980 to conduct research on all submerged objects of cultural interest, including historic shipwrecks throughout the National Park system.

Investigators have to cope with the basic technical problems of locating, documenting and managing submerged historic sites as national resources. However, the Park Service has limited personnel and funding to deal with this large, Congressionally mandated mission.

That's where the Navy comes in.

The Navy's role in this project, as explained by Cmdr. David McCampbell, commanding officer of MDSU One, "is to help the Park Service manage our country's cultural resources by providing manpower to complete the labor-intensive tasks required. The Navy augmented the Park Service's underwater archeologist staff with divers, primarily from Naval Reserve detachments, to assist in

# Project Sea Mark

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charting, mapping, surveying and photographing these historic resources,” he said.

Bringing the Navy and the Park Service together on the project “has obvious benefits,” Cook noted, and “is very much in line with the ‘Take Pride in America’ program, through which the Secretary of the Interior has invited all other agencies to help in caring for our

resources on public lands.”

The Navy and Park Service divers met the challenges of the underwater surveys head-on. First, they positioned initial survey lines and the weights to secure them. Next, they meticulously established all-important reference points, and, using those points, made exact measurements and drawings to establish details of features of the wreck.

“We need to know exactly what and where those features are,” said Daniel Lenifan, Chief of the Park Services Submerged Cultural Resources Unit in Santa Fe, N.M., and in charge of overall Project *Sea Mark* research and execution. “They have much to tell us about the remaining structure of the historic site.”

Much of the underwater survey work relied on a process called “trilateration”



Photo by Lt. Cmdr. Tracy Connors

— taking measurements in distance and degrees of angle from known locations on the baselines out to other points on the wreck. The process sharpened the underwater surveying and drafting skills needed by Navy divers, skills essential for effective salvage. The divers also improved their underwater still photography and video techniques. Data obtained will be compiled by Park Service



draftsmen into comprehensive ship diagrams for study by both archeologists and visitors to the historic sites.

The divers dealt with different challenges in different waters. In Pearl Harbor, there was low visibility, at times only a few inches. In Apra Harbor, they worked in clear water but often at depths exceeding 100 feet. They also performed training dives using scuba and MK 12 diving dress and the new “fly-away” diving system.

The unusual joint project provided significant cost benefit to taxpayers. “What we are doing is bringing together resources to accomplish important work that is performed in a very cost-effective manner,” reported William Dickinson, Superintendent of the USS *Arizona* Memorial in Pearl Harbor. “By conducting these studies as a joint project, everyone benefits,” he said.

“Naval reservists are able to simulate a mobilization assignment where they address real diving problems at a remote site,” McCampbell explained. “Even the logistics of moving their equipment and personnel to the site is good training for any required mobilization.”

“Divers had to master tasks very similar to those they would face during a salvage operation,” reported Cmdr.

James K. “Otto” Orzech, USNR, commanding officer of MDSU Det 319. “Underwater mapping, barge positioning using a three-point moor, and underwater photography are examples of the valuable training we gain from this type of project,” he said. A greater number of individual dives were completed during the joint project than normally occur during annual training.

As a result of the survey work performed by the reservists, the Park Service has, for the first time, very accurate drawings of one of its most significant historical resources: USS *Arizona*. Similar drawings are being prepared on USS *Utah* and *Kizugawa Maru*.

“Prior to Project *Sea Mark*, we did not have *Arizona* drawings or the detailed model we developed from them, which gives visitors to the Memorial a much better understanding of *Arizona* as it exists today,” Dickinson noted.

**Most visitors to the gleaming USS *Arizona* Memorial don't realize that divers must work carefully in Pearl Harbor's murky waters to properly survey “artifacts” such as *Arizona* (left) and USS *Utah* (below). With visibility only a few feet, underwater surveys require exact measurements.**

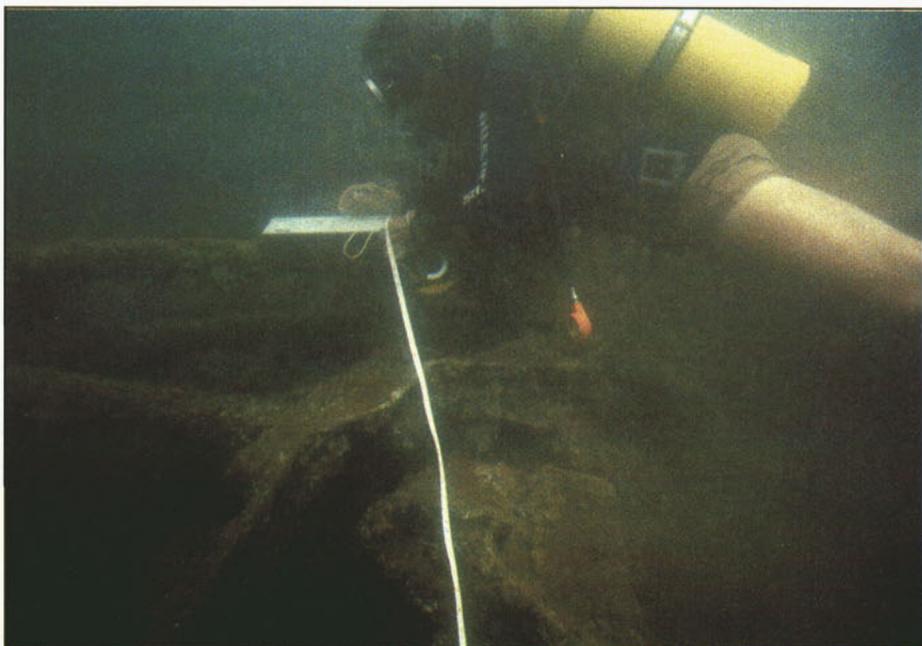


Photo by Larry Murphy

# Project Sea Mark

Baseline information developed during the survey and mapping effort was used by engineers as they fabricated a detailed ship model of *Arizona*. The model will give the 1.4 million people who visit the Memorial every year a more accurate picture of what is beneath them as they gaze into the murky water.

"It is one thing to tell people that there is a 608-foot battleship sitting on the bottom. It is something else for them to be able to 'see' what that battleship looks like by viewing a highly accurate scale model which illustrates the massive damage inflicted on that ship on Dec. 7, 1941," Dickinson said.

Data collected from the *Arizona* study yielded important historical surprises. "We were able to answer many questions that previously we were unable to answer," Dickinson explained. Using information provided by the divers, Memorial historians have determined that there are no known torpedo hits on *Arizona*. There had been speculation that the ship was sunk by air-launched torpedoes during the Japanese attack. There is no longer evidence to support that view.

Evaluation of the data brought back by the divers indicated that an armor-piercing bomb, which struck just in front of the number one gun turret, appears to have done the damage that sank the ship. "Prior to the survey, there was no way to really confirm what actually sank *Arizona* — it was all speculation," Dickinson said.

Other survey findings on *Arizona* included pinpointing the exact location of the oil leak that has released several drops of oil every few minutes since the sinking. In addition, *Arizona*'s number one gun turret still carries its 14-inch guns; prior to the survey, it had been thought that all of *Arizona*'s guns had been salvaged.

The extent to which corrosion is threatening *Arizona* was assessed, including the amount of marine growth covering the hull. An in-depth marine growth monitoring program was initiated. The program will assess the types of organisms, density of their growth, their rela-

tionship to the ship itself, and the degree of corrosion. This information will be put into a computer model depicting *Arizona*'s deterioration. That model, in turn, will help with long-term resource management decisions regarding *Arizona* and other submerged cultural resources nationwide.

USS *Arizona* was not the only object of the divers' investigations in Pearl Harbor.

USS *Utah* was surveyed from bow to stern by dividing the ship into ten sections with marker lines placed about 50 feet apart. Detailed drawings of the 521-foot, 21,800-ton one-time battleship were prepared using the trilateration process. The drawings will be complemented by underwater photography and videotape to enable Park Service draftsmen to create a final, minutely detailed drawing of what has been called "the forgotten memorial."

Project *Sea Mark* surveys and the resulting ship drawings of *Utah* will help visitors better appreciate this once-proud ship and the important service ship and crew rendered to the United States.

Although Project *Sea Mark Pacific* has been underway since 1983, the work is so valuable to both the Park Service and the Navy that planning for similar projects in the Pacific Basin is already in progress, McCampbell said. "Future *Sea Marks*, in Hawaii, Guam and other locations in the Western Pacific, will not only add to our understanding of important historical events and submerged resources, but will provide superb mobilization training and remote site familiarization for reserve and active-duty sailors." □

*Lt. Cmdr. Connors is Public Affairs Officer for Commander, In-shore Undersea Warfare Group Two in Williamsburg, Va.*

**MDSU One divers survey *Kizugawa Maru* in Guam's crystal-clear waters, documenting features of a deck gun and tracking a survey line past the stack. In the dive platform workshop, Mark 12 dive helmets are checked out before final fitting.**



Photo by Larry Murphy

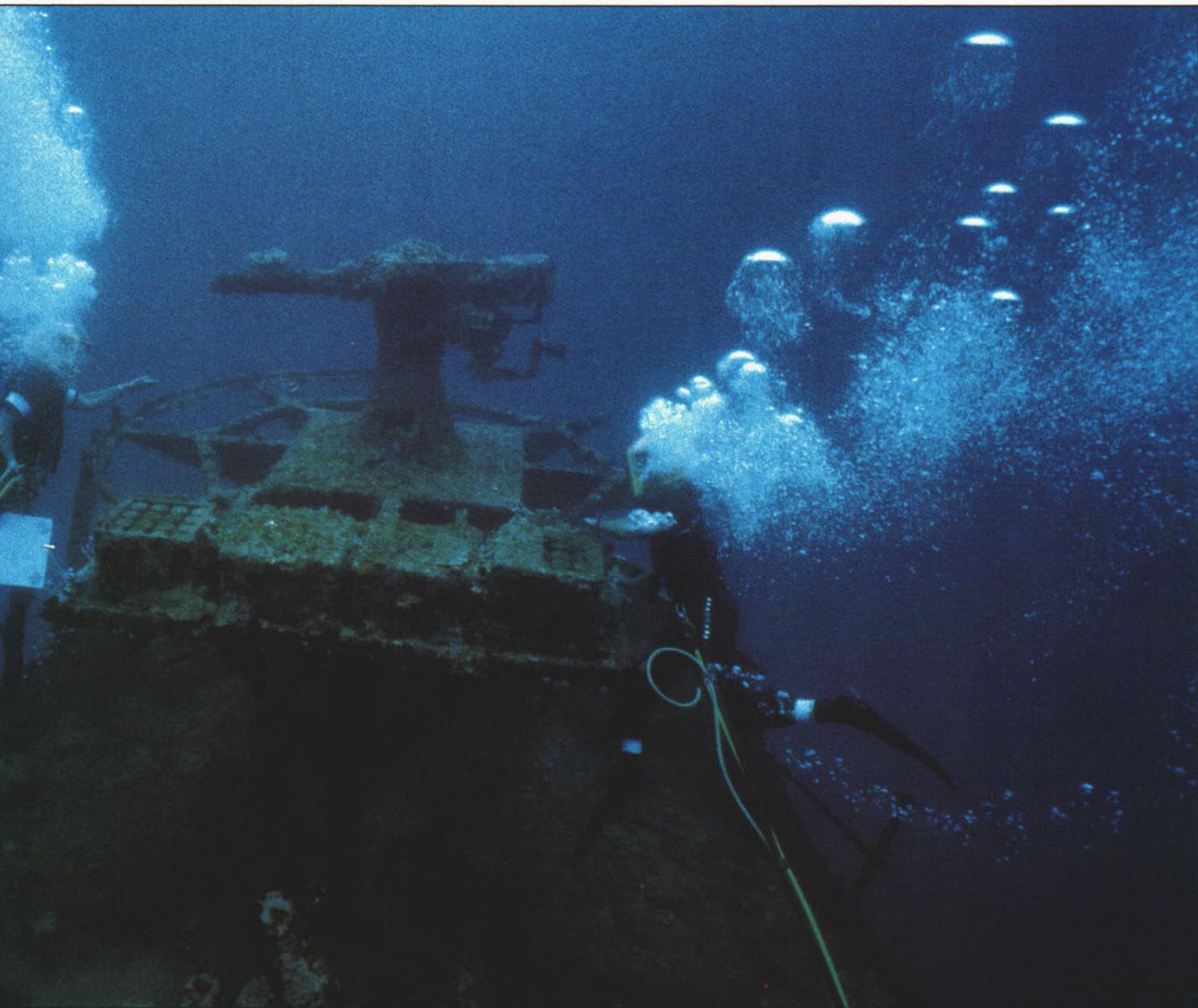


Photo by Larry Murphy



Photo by Larry Murphy



Photo by Larry Murphy

# USS Utah

## Pearl Harbor's other memorial

By JO2 Brent Johnson

Explosions rocked the air and smoke billowed high into the sky. Iron and steel were torn into grotesque and unrecognizable shapes. More than 2,400 lives were lost at Pearl Harbor on Dec. 7, 1941. Three ships were considered total losses that day: *Arizona* (BB 36), which sank in less than nine minutes, USS *Oklahoma* (BB 37), which capsized after at least four torpedo hits, and USS *Utah* (AG 16), whose ravaged hull still contains the remains of more than 50 of its crew.

Thirty years to the day after *Utah* sank, ground was broken on Ford Island, in the middle of Pearl Harbor, for a memorial to the sacrifices made by the men who died on the stricken target ship. Unfortunately, it would be seldom visited.

*Utah* lies less than a mile from one of the largest tourist attractions in Hawaii. The *Arizona* Memorial attracted nearly 1.5 million visitors last year, according to National Park Service estimates. In contrast, only a handful visited the *Utah* Memorial. Most who view the remnants of the old warrior do so from one of the passing tour boats out of Kewalo Basin.

In the beginning, it was different. On Dec. 23, 1909, as hundreds of dignitaries looked on proudly, Mary Alice Spry, 17-year-old daughter of Utah's governor, William Spry, smashed a bottle of champagne across the bow of America's newest battleship, number 31, christening it USS *Utah*. The dreadnought slid down the ways to begin its career as one of the

U.S. Navy's most powerful ships.

*Utah* spent the first year of World War I operating in Chesapeake Bay as an engineering and gunnery training ship. In August 1918, it left its New York home port for Ireland with the Commander in Chief, United States Atlantic Fleet embarked. In the North Atlantic, *Utah* served as the flagship for the Commander, Battleship Division Six, protecting Allied convoys from Kaiser Wilhelm's surface force.

When the war was over, the battleship steamed to the coast of France in a convoy that carried President Woodrow Wilson to the Versailles Peace Conference.

In 1924, General John J. "Black Jack" Pershing rode *Utah* to Callao, Peru, on a diplomatic mission.

In 1928, the ship carried Herbert Hoover, then president-elect, from Montevideo, Uruguay to Rio de Janeiro on another diplomatic mission.

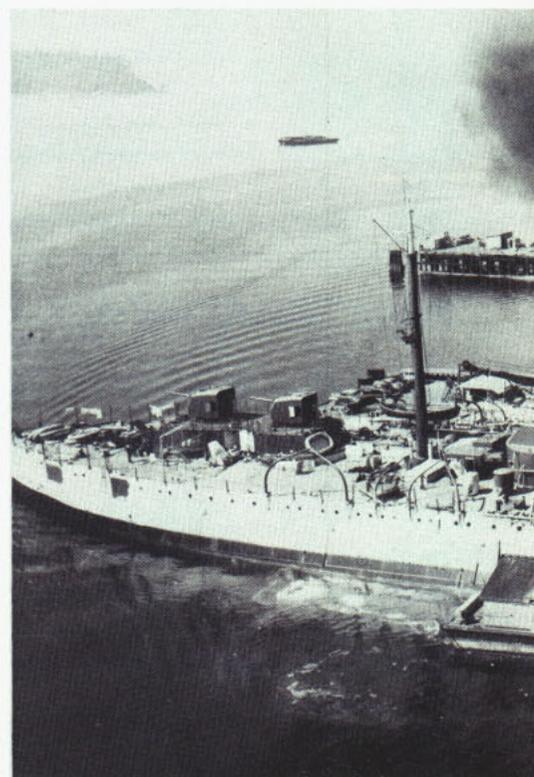
In July 1931 it was moved to Norfolk, Va., to be modified for its second career. Under the terms of the 1922 Washington Naval Treaty, *Utah* had been selected for conversion to a mobile target.

*Utah* became AG 16, a mobile bombing target and anti-aircraft gunnery training ship. Its deck was reinforced with heavy 6-by-12-inch timbers to help bol-

ster it against non-explosive practice bombs.

*Utah* moved to San Diego in 1932 and spent the next nine years performing a vital service to the fleet by adding realism to the training of naval aviators flying from the aircraft carriers *Saratoga* (CV 3), *Lexington* (CV 2) and *Enterprise* (CV 6).

After sailing to Cuba and Haiti in 1939, the ship was stationed at Pearl Harbor in 1940. Twice *Utah* was moved



USS *Utah* (AG 16) at Puget Sound Navy Yard, Aug. 18, 1941. A month later, she sailed for Pearl Harbor. U.S. Navy photo.

to Bremerton, Wash., to be equipped with five-inch guns and the first 20mm and 40mm anti-aircraft guns placed on any fleet warship.

*Utah* left Bremerton on its final voyage on Sept. 14, 1941. The ship completed an advanced anti-aircraft gunnery cruise in Hawaiian waters shortly before returning to Pearl Harbor early in December 1941.

At 8:13 a.m., Dec. 7, 1941, the first of three torpedoes from Nakajima B5N2 *Kate* bombers struck *Utah*. The ship capsized and sank in 12 minutes. More than fifty crewmen went down with it.

As the ship listed from the first torpedo strike, an "abandon ship" order was given. But as men clambered up onto the wooden deck, the massive timbers shifted and caused many casualties. Other sailors were strafed by enemy aircraft as they leapt into the water to swim ashore.

One sailor made no attempt to leave *Utah*. Chief Watertender Peter Tomich remained below, ensuring that the boilers were secure. His sacrifice probably kept the ship from blowing up, which would have killed hundreds of his shipmates. Tomich was posthumously awarded the

Medal of Honor. Destroyer escort No. 242 was launched in Sept. 1942 bearing the name *Tomich* in honor of this Yugoslavian-born hero.

Moments after *Utah* sank, Cmdr. Solomon Isquith, engineering officer, heard a faint pounding coming from inside the hull of the overturned ship. Amid the flying bullets from the Japanese *Zeros* and with cutting torches borrowed from the light cruiser *Raleigh*, Cmdr. Isquith and three enlisted volunteers cut through the steel and rescued 10 men. The last man out was Fireman John B. Vaessen, who had remained at his post in the dynamo room keeping power to the mortally wounded ship until it was too late to escape.

It was generally believed that the Japanese pilots mistook the wooden-decked target ship for the carrier *Enterprise*. *Utah* was moored at berth Fox 11, *Enterprise's* normal berth, between *Raleigh* (CL 7) and the seaplane tender *Tangier* (SP 469). The carrier should have been in port that fateful day, but was delayed at sea when a destroyer from its battle group was damaged in heavy seas.

Soon after the attack, Radio Tokyo

made the false announcement that *Enterprise* had been sunk.

"The Japanese high command knew there would be no carriers in port that day. The Radio Tokyo report was probably just propaganda," said Mark Tanaka-Sanders, a park ranger for the National Park Service at the Arizona Memorial. "The Japanese pilots were supposedly the best trained naval aviators in the world at that time. They were assigned to attack certain berthing spaces. They were ordered to destroy whatever was in that berth. There is no way the Japanese pilots would have mistaken *Utah* for an aircraft carrier."

Even though *Utah* ceased to exist as an active ship, her legacy continued on through the war.

"*Utah* was responsible for training gun crews with all the new weapons," said retired Capt. Victor J. Niiranen, an officer aboard *Utah*. "This training had much to do with us winning the war."

"The skill of USS *Utah*-trained anti-aircraft gunners and carrier dive bomber pilots won one of the most decisive battles of World War II against great odds at Midway," said Sen. Frank E. Moss of Utah, "and won other battles long after the *Utah* itself had been sunk.

"In this sense, *Utah* was immortal," he said. "Its bulk was a twisted mass, but its spirit remained alive in almost every fighting ship and aircraft in the Pacific Fleet."

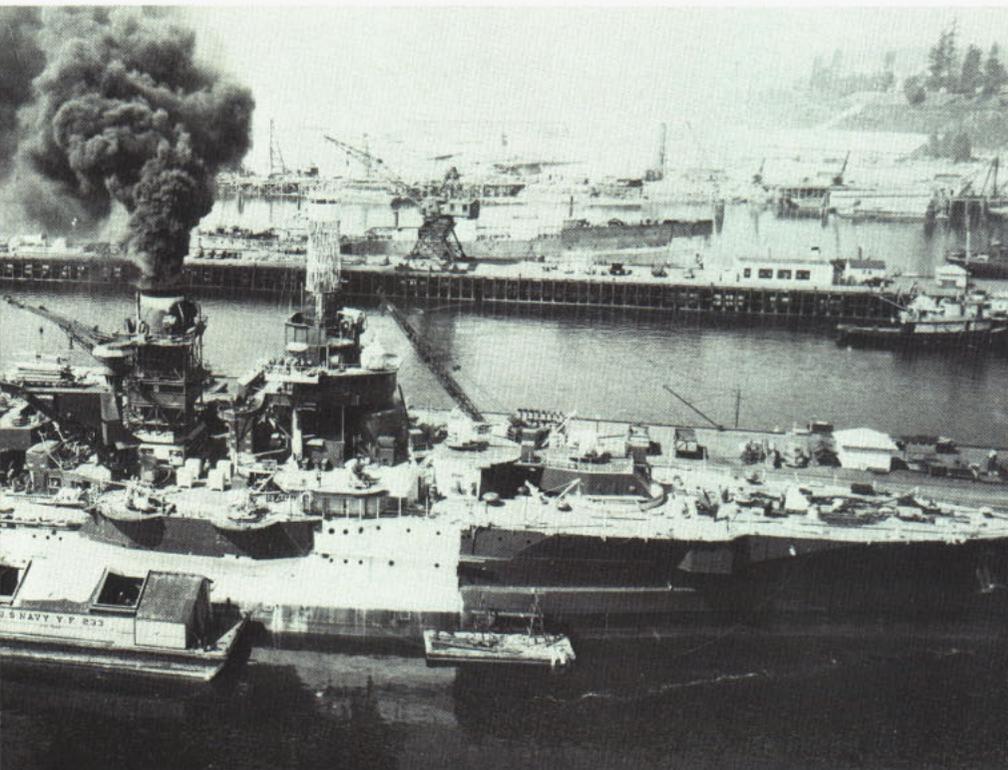
In 1963, Moss introduced legislation to anchor a flag pole in the rusting, listing hulk of the ship.

On Memorial Day 1972, the *Utah* Memorial was dedicated, with Moss as the guest speaker.

Now a 70-foot concrete walkway stretches out from Ford Island, to the remains of the old battlewagon. A Navy color guard daily raises the Stars and Stripes on a flagpole in the corner of the viewing platform.

Over 2,400 men gave their lives for their country on Dec. 7, 1941. The *Arizona* Memorial stands as a majestic tribute to their memory. And, lest we forget, so does the *Utah* Memorial. □

*JO2 Mike McKinley contributed to this story.*



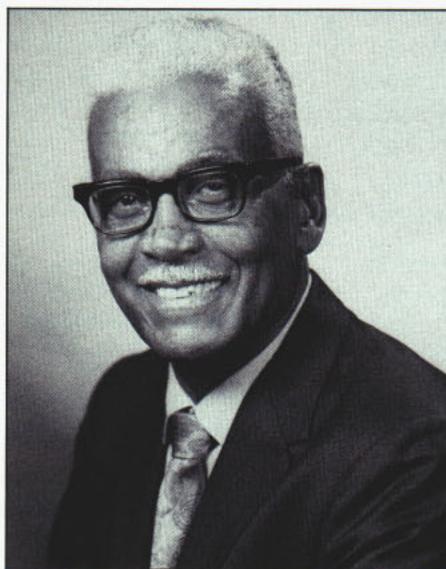
# A yachtsman's tale

Story by HMC Richard E. Miller

The history of World War I's black Navymen has never been widely known or recorded, which is not surprising to Wilber B. Miller. The former Mess Attendant 3rd Class, a black man who served with the Navy's fighting yachtsmen of World War I, is now an 85-year-old retiree, living in San Antonio, Texas. He offers a rare glimpse into life with the U.S. Patrol Squadrons, United States Naval Forces in France, from the viewpoint of a 17-year-old sailor aboard USS *Nokomis* (SP 609).

"There were not many of us," he said. "And to the officers for whom we worked, and who later became the historians, we mess attendants were non-entities. Aboard the yacht gunboat *Nokomis* there were six or seven blacks — out of almost 100 officers and men — one wardroom cook and the rest mess attendants. My job as mess attendant was to look after three officers. I cleaned their clothes, shined their shoes and kept their quarters in order. At mealtime I'd either be waiting on their tables or helping the cook."

Like almost every other American institution in 1917-1918, the Navy was racially segregated. During the war it became even more rigid. Non-whites had few opportunities for advancement and



Wilber B. Miller

almost never held authority over whites. All the blacks on *Nokomis* belonged to the messman's division. Miller never encountered any of the handful of black petty officers from the pre-war regular Navy who had been permitted to continue their service in general ratings.

"I did see blacks in the Portuguese and British navies," Miller said. "They were rated seamen who appeared to be integrated into those forces. Of course, 'integration' wasn't even a word, then. I was

a poor country boy trying to get out of the bad situation I'd grown up in — we were all just taking what we could get."

The preacher's son from Texas went through boot camp at Pelham Bay, N.Y., and spent the next two years aboard ship.

"The racism was bad, but (the whites) weren't flagrantly belligerent. At the naval training station the races lived together, and much of the time we trained together. There were only four to six blacks in the training company. During the day, when the white seaman recruits went off to learn their lessons under the boatswain's mates, we'd have our own separate lessons. We were taught how to polish silver and furniture, how to select cuts of meat and serve food — the things that we were supposed to know.

"It was a segregated experience, but there was always overlapping. In our off-time we'd all play together in athletics and share in whatever entertainment there was. Later on, I observed that the white sailors seemed to have as much if not more social prejudice against foreign-born whites as they did against us. It was especially so toward those of Germanic descent."

At the end of his training in August

1917, the new sailor gained his sea legs aboard a Navy oiler before reporting to *Nokomis*, a luxury steam cruiser purchased from Horace P. Dodge, delivered to the Navy at Detroit and “fitted for distant service” at Philadelphia.

“We crossed the Atlantic in December 1917 stopping at Bermuda, the Azores and Portugal before we got to Brest, France, terminus of the American troop convoys. We made the crossing in short hops because the engines weren’t qualified to take it in one jump.

“The Atlantic was cold and rough. Even though we had good doors, enough water would get in to keep the bunks damp . . . we’d always have to sleep in wet beds.

“Our job off the coast of France was patrol and convoy escort. We’d go out, meet the convoy, pick it up and bring it in. Or we’d take the ships out through the danger zone, meet some more and bring them in. They’d have us three miles apart — three on each side, with half a dozen ships between us — all chugging along at about 10 knots. Enemy submarines were always around us. The ships that got hit (by mines or torpedoes) were usually lagging or the first or last in the convoy. The U-boats would fire their torpedoes . . . then quickly run away or dive to the bottom and cut their motors so they couldn’t be seen or heard and attacked with depth charges.

“We might see a periscope briefly, but with our 12 knots or less, we couldn’t go after them without being left behind. There was nothing we could do but hold our station.”

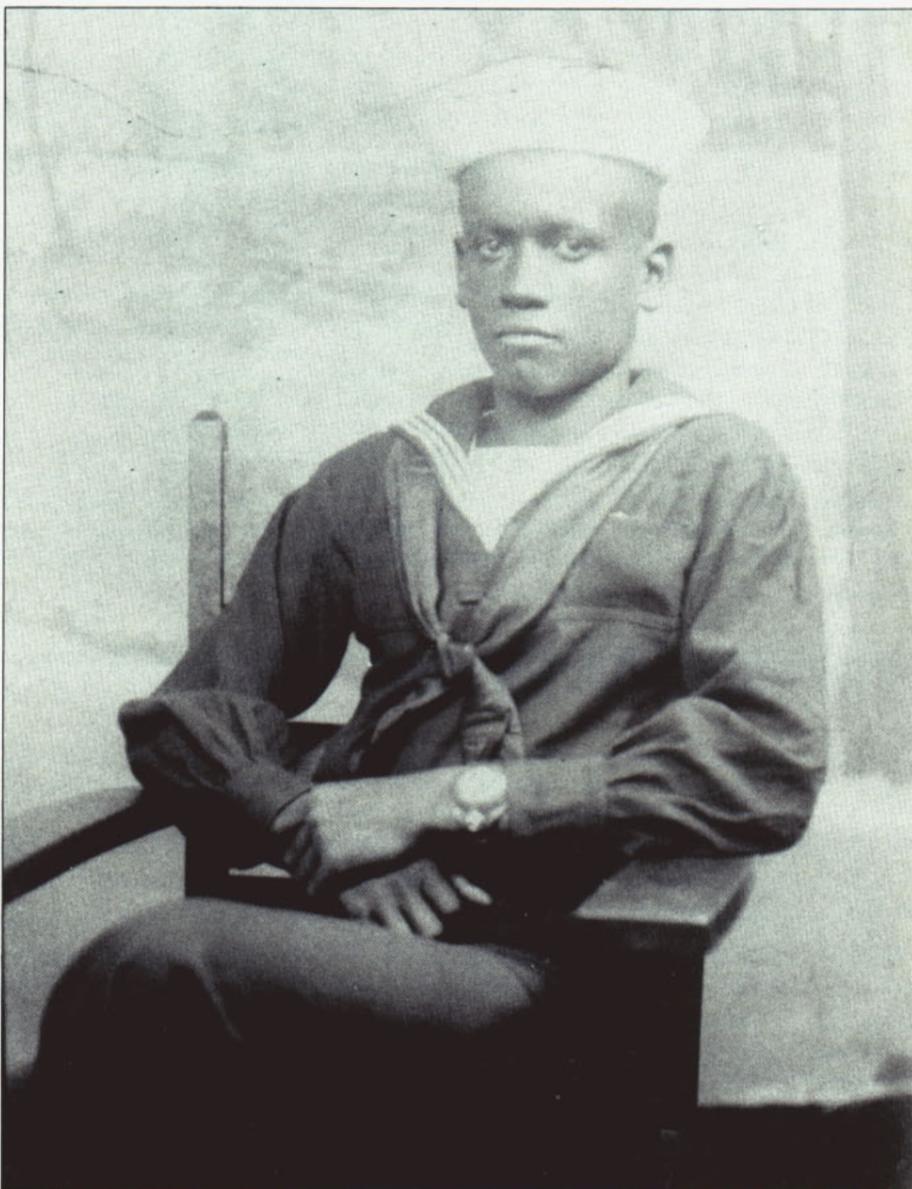
Miller came to envy the destroyer men, especially the crews of the classic “flush deckers,” four-stacked vessels with powerful, oil-burning, steam turbine engines. “They were built for the job,” Miller said. “They’d glide through heavy seas at 21 knots while we were struggling to make 10 knots . . . our old engines vibrating . . . leaking, bilge pumps over-

worked. The racing destroyers looked like their fantails were underwater, with the wakes churning up behind them. They were beautiful.

“The Navy considered us expendable,” he said, describing the role of the converted yachts. “The way they thought — if one of us got sunk, but they got a submarine, all well and good. If two of us got sunk and they got a U-boat, it was worth it. . . .” The elimination of a single U-boat, each of which promised to do millions of dollars in damage to Allied shipping if left unchecked, was monetarily worth the sacrifice of several

converted yachts. But during the war, only one yacht was actually lost to the Germans.

The messman developed strong opinions about the officers of *Nokomis*. “Most were civilians thrown into uniform, the Navy hoping they would gain from working with a few experienced officers,” he explained. “They’d have an experienced former executive officer as CO and a chief boatswain’s mate as crew chief. They knew how to handle the men and the ship. But those other guys. . . . I’m not saying they were *no* good — they were ready to sacrifice their lives. It’s just



Miller joined the Navy at age 16, after the Army rejected him as too young. This photo was taken in August 1917.

# A yachtsman's tale

the *type* of men who were chosen to be officers: some were too old, some had graduated from second-rate schools, some couldn't navigate, they knew nothing about gunnery or anything. . . .

"They treated me all right, but many of them were excited with their position. They'd never had servants before and now they had servants — some let it go to their heads. What they thought of us black messmen was nothing!"

But the Texan made the most of his opportunities aboard *Nokomis*. "I was always inquisitive and anxious to discover things," he recalled. "After I finished my regular duties I'd go out on deck to watch and listen to the men working, removing engines or other equipment on the ship's boats. They'd see me watching and before long someone would ask me to lend a hand. And I'd be glad to do it because it gave me the chance to learn about their tools.

"My grandfather was a carpenter, and I knew about saws and hammers and files, but I'd never seen any of their various kinds of wrenches and drills. Just by watching and helping, I learned enough so that years later I could put in my application for mechanic's helper and I qualified readily."

Miller took time to learn other skills, too. "I knew the navigator and spent a lot of time on the bridge just to observe and learn what he was doing. I also read books from the ship's library including

some on conversational French." This came in handy when *Nokomis* had liberty in France.

"I studied my books at sea, and when we'd return to port I could attract their attention with phrases like, 'Bon soir, comment allez vous?' Then I'd get a smile and they'd say, 'Oo, parlez-vous

francais?' and things went on from there."

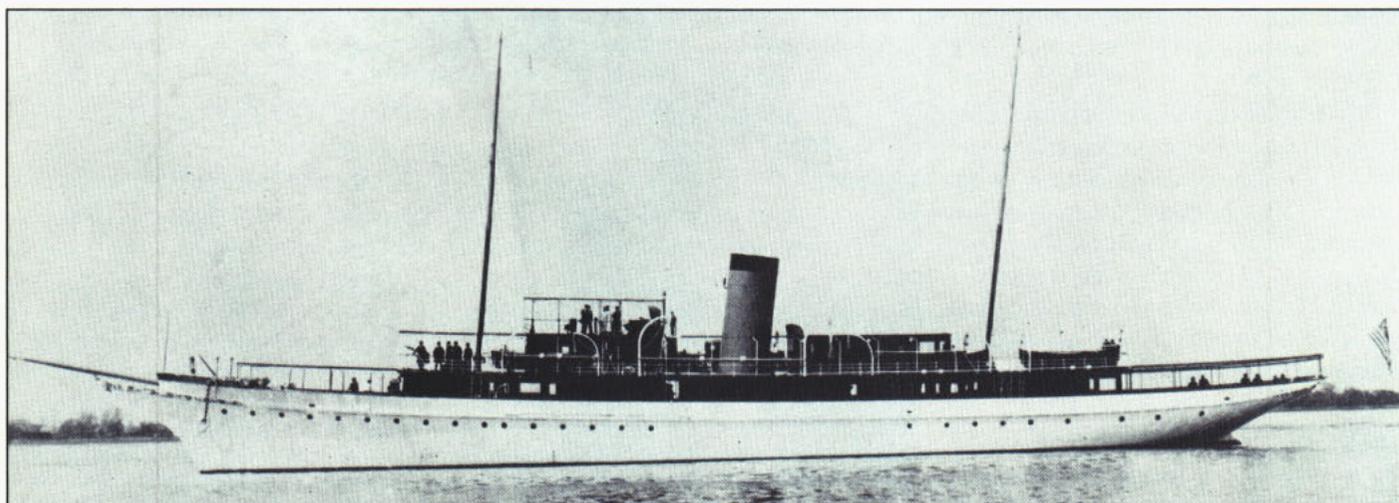
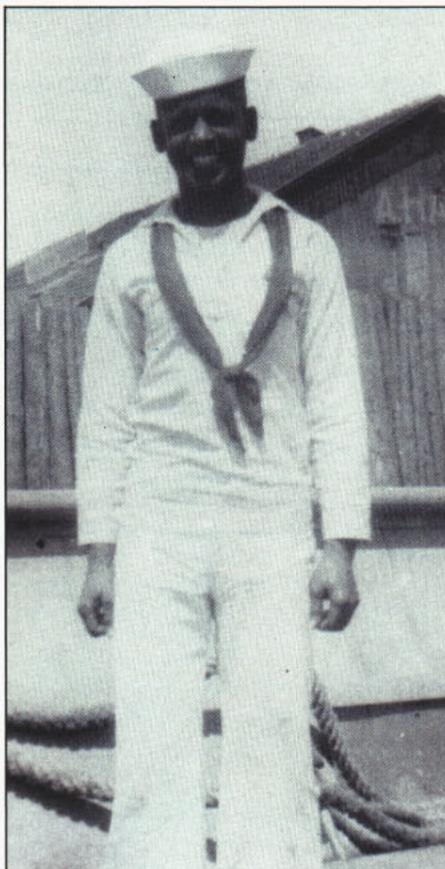
Liberty in France proved educational in other ways. "I was just off the farm and I wasn't accustomed to dealing with whites on an equal basis, as I could with French civilians. . . . They were used to dealing with Senegalese blacks, and didn't show any racial prejudice. The French girls would give American blacks as much time as they would the whites."

Though his memories today of the Navy are rather fond ones, in 1919 the messman was eager to be discharged. "I was not born to be a waiter! I wanted to have what I considered to be a man's job, so I fulfilled an earlier ambition and enlisted in the Army."

Miller served his Army hitch, returned to Texas, and eventually put in a 30-year civilian career with the Air Force, seeing along the way astonishing changes in American society. It is important to look back, so that the lessons of the past are not lost. Wilber B. Miller provides an opportunity to understand our history from a perspective with which many of us have no experience. □

*HMC Miller, an amateur historian, is assigned to the Naval Medical Clinic, Washington, D.C., and contributed the photographs for this story. Wilber B. Miller is his uncle.*

**France is a long way from Texas, in miles and attitude, as Miller discovered while on liberty in Europe from *Nokomis*.**



U.S. Navy Photo

# HEED II

## *Navy adopts lifesaving device*

Story by JO2 Mike McKinley

The impact was tremendous.

The helo lost power and dropped 500 feet in five seconds. The disabled Navy HH-46 *Sea Knight* helicopter slammed into the Indian Ocean so hard that one survivor, Aviation Ordnanceman 3rd Class Francis Garcia, isn't certain, to this day, whether the troop seat he was sitting on just collapsed or whether he was actually driven through the seat's webbing by the impact. In either case, he was sprawled painfully on the helo's hard deck as sea water began flooding over him.

Aviation Machinist's Mate 1st Class Timothy Chayka, crew chief of the HH-46 from Helicopter Combat Support Squadron Eleven, was also flattened on the deck by the force of impact. In seconds, he was blanketed by the torrent of water gushing through the chopper's ruptured fuselage.

The force of the crash had snapped the cockpit off from the rest of the aircraft. The pilot, Lt. Steven Rosandich, smashed against the door and broke his jaw. Co-pilot Lt. Gregory LaFave watched helplessly as the windshield collapsed in on him and Rosandich. The smashed instrument panel crushed against their legs, pinning them in the ruined cockpit. Both flyers were immediately swallowed by the sea.

Behind them, Chayka and Garcia were also sinking with the wreckage. Four men — hurt, stunned, and disoriented — desperately struggled to save themselves as their shattered aircraft disappeared into the Indian Ocean.

All four crewmen did escape death that day, thanks in part to their underwater egress training. But two of the men, Lt. LaFave and Petty Officer Garcia, almost certainly would not have survived if it hadn't been for a special piece of survival gear that only recently became available.

The Helicopter Emergency Escape Device, or HEED II, is carried in a zippered pocket of the aircrew survival vest. The device is self-contained and compact — less than two pounds, about 10 inches long and two inches in diameter. A regulator and mouthpiece are attached. The HEED II is activated by inserting the mouthpiece and turning an on-off knob. The compact air tank can supply from two to four minutes of additional emergency air on demand. Although this doesn't sound like much, for men caught in a dark, water-filled aircraft drifting down into the depths, it can mean the difference between life and death. Both LaFave and Garcia credit HEED with saving their lives.

In a recent visit to Washington, D.C., LaFave and Garcia met the man who helped develop the prototype of the improved system now found fleet-wide. He is Master Sergeant John Cleary, USMC, assigned to the Naval Air Systems Command in Washington, D.C. During their meeting with Cleary, LaFave and Garcia related their experiences of Aug. 27, 1987 when their helo went down.

According to LaFave, the mishap occurred while HC 11 was getting ready to deploy back to its home base in San

Diego. "We had taken off from USS *Camden* (AOE 2) after having just changed the aft transmission and were going through the maintenance check flight," said LaFave. Everything was going fine, when suddenly the helo experienced a material failure that resulted in a full power loss. LaFave recalled, "We started at 1300 feet and had pre-briefed the helo to recover at 500 feet. When we went to full power at 500 feet, there was just nothing there. We had experienced a total power loss."

A crash was imminent and the crew had about five seconds until impact. "I remember turning the transponder to emergency, locking my harness, bracing for shock and watching all the windows collapse inward as we hit," said LaFave. He added that though the helo hit with a relatively level attitude, "it broke into several pieces and the next thing I knew, we were underwater."

LaFave compared the crash to a car accident in which "everything happens so fast and you really don't have any idea how severe the accident is going to be. One moment we were in the air and in the next, underwater. And you say to yourself, 'If I don't get out of here, I'm going to die.'"

Underwater and pinned to his seat by the instrument panel that collapsed on his legs, LaFave pulled his helmet off and immediately grabbed for his HEED bottle. Needing air badly and very disoriented, LaFave was now inverted and worried that the device would not function properly upside down. "I just

# Lifesaving device

grabbed it,” said LaFave, “and it came out without any problem. I put the mouthpiece into my mouth and took a badly needed breath. Although you’re supposed to purge the HEED first before breathing, in my haste I didn’t, but the bottle still worked just fine.”

LaFave found that the air instantly had a calming effect on him. “It gave me time to think, react, and regain my composure so I could think about what I had to do to get out,” he said. “I undid my harness, pushed the panel away and worked my legs free. I pushed myself over the panel, where the windshield should have been, and got clear. With the HEED, I had plenty of air and I let myself float upward, continuing to breathe with the help of the bottle until I reached the surface and inflated my life preserver. I don’t think I’d be here now without HEED II.”

Garcia had a similar experience. “When we were going down, I had a feeling of hopelessness. There was nothing you could do.” Although he was buckled into the gunner’s safety belt, Garcia didn’t have time to put on his seat belt. “The last thing I remember before impact was looking out the observation window and seeing water right in front of me.” Upon impact, he was thrown from his seat onto the deck and experienced intense pain in his back.

Garcia could feel water rising above his neck. Taking one last breath of air, he began trying desperately to release himself from his safety belt as water went over his head. “I was disoriented and confused,” said Garcia, “everything had happened so fast and I was having trouble getting out of the safety harness.” Feeling trapped and not being able to see an opening out of the helo through the murky water, Garcia said he thought he was going to die. “There was no way I could get myself to a door and make it to the surface.” Then he remembered his HEED.

Pulling the HEED from his survival vest, Garcia popped the mouthpiece into his mouth and started breathing normally. Right away there was a feeling of calm as air filled his lungs. “Once I had that bottle activated and had air, I told myself, ‘Slow down — you’re OK. Now you have a little time.’” he recalled. “That bottle helped 100 percent. It gave me that extra time to settle down, get out of my safety harness and make a full scan of the helo and try to find an opening to get out.”

Garcia could feel the helo roll to the right and had the sickening feeling that it was going to roll over entirely. Then he saw a dull light through the gloom, and, still breathing normally with the aid of HEED, he made his way toward the light that proved to be the side door and freedom. As he exited the door, he could feel the helo sinking even deeper. Once clear of the aircraft, he made it quickly to the surface. “That bottle made the difference,” said Garcia.

Rosandich, the pilot, and Chayka, the



**The HEED II can provide an aircrewman a few minutes of lifesaving air in an emergency. U.S. Navy photo.**

crew chief, did not use their HEEDs to escape. Employing the underwater egress techniques they learned at Miramar and Pensacola, both men made it to the surface. Rosandich tried to use the HEED, but couldn't because of his broken jaw. However, he did use a burst of air from the canister to point the way to safety. In his disoriented state, it was difficult for Rosandich to determine which way was up. The air bubbles from HEED pointed the way to safety.

Following their ordeal, all four men were picked up by another helo from HC 11 and flown to safety. The mishap had happened so quickly, that neither Rosandich or LaFave had a chance to send a "Mayday." But an alert technician saw the helo's radar blip disappear from the screen and a rescue unit was immediately vectored to the aircraft's last known position.

This was the first reported accident where an air crew used the HEED to escape from a sinking aircraft. According to Navy safety experts, in 1981 through 1983, there were 37 Navy/Marine Corps helicopter mishaps that resulted in water entry. In 29 of these mishaps, the helicopter fuselage either inverted or sank immediately following impact, thus requiring the crews to attempt an underwater egress. Twenty-seven men never made it. These losses created the germ of the idea that developed into HEED.

In January 1983, Col. Ward B. Johnson, USMC, then commanding officer of Marine Air Group 46, based in El Torro, Calif., visualized an emergency breathing system for helicopter crewmen that was inspired by a James Bond movie. The device used by Bond consisted of a small air canister with attached mouthpiece. Johnson then mentioned his idea to Marine Sgt. Major L. Lance Ewing, a qualified Navy diver also attached to MAG 46. Ewing felt that Johnson's idea was sound and that such a device could be made.

To help in making this vision a reality, Johnson called upon his unit's senior flight equipment man and parachute rigger, then-Gunnery Sgt. John Cleary,

to find a portable underwater breathing system that would be lightweight, cost-effective and could provide an aircrewman with three to five minutes of air.

Accepting the challenge, Cleary began four months of research into existing devices, and to find something that he could modify for helo use. "I got busy on research and development of the colonel's idea," said Cleary. "We had to do all this without funding. Eventually, I found a machinist who was an expert in scuba systems. He agreed to work with us to manufacture an emergency breathing system.

"I went to work on the project and started going through scuba magazines," said Cleary. "I stumbled upon one device that was OK, but the air bottle was too big. So we had to reduce it down. I borrowed one of the bigger units that looked like it might work, took the regulator off the top and attached it to a small one-man life raft bottle," he recalled. All the modification work was done in the MAG 46 shops.

By the spring of 1983, Cleary had helped design and produce two types of breathing systems that could be mounted in aircrew survival vests. He found that most of the parts that went into the systems were available locally. "For instance," Cleary said, "the oxygen bottles used were already in the supply system. It's the same one used on a one-man life raft." He added that the regulator and mouthpiece were off-the-shelf items from the manufacturer of scuba diving equipment.

Following several tests by both Cleary and volunteer pilots from MAG 46, and after undergoing a number of alterations, the two prototypes were sent to the 4th Marine Aircraft Wing headquarters and on through the chain of command to NavAirSysCom in Washington. "Washington was already considering similar products," Cleary said, "so ours arrived at a good time."

Cleary's efforts were rewarded when one of the two emergency breathing systems was adopted and plans made to start training personnel in its use. The de-

vice was deemed effective, safe, practical and economical. Pilots and crews were so excited about this innovation that, while waiting for NavAirSysCom's official approval of the bottle, two deployed helicopter squadrons went ahead and purchased the breathing device on their own, at personal expense.

In 1986, after minor structural modifications on Cleary's basic design, 8,200 HEEDs were procured for the Navy by a commercial manufacturer and distributed throughout the Navy/Marine Corps helicopter communities. Fortunately, this distribution came in time for LaFave, Garcia, Rosandich, and Chayka, who received their HEEDs and the necessary training only days before deploying.

According to Cleary, he and other riggers are constantly preaching to aircrews to make sure their gear is always with them and in working order. The incident in the Indian Ocean was one case where this preaching paid off. "You can't always trust your abilities," said Cleary. "There are going to be times when you need an aid . . . sometimes your abilities are overcome by events."

Cleary added that HEED is not the only thing you need to escape an aircraft. "The more conventional training in aircraft egress is still important. HEED is there if you need it," he said. "But the alternative is still 'Mark I Mod I,' namely, 'hold your breath, forever.'" Before HEED, that was the *only* alternative.

Capt. Richard Healing, USCG, a spokesman from the Office of the Assistant Secretary of the Navy for Safety and Survivability, in Washington, D.C., said, "Cleary must be given a lot of credit. It took a long time, a lot of effort and a lot of paperwork to make HEED a reality, but he did it. He needed to be patient, motivated and driven, which he was, for the safety of all pilots and crews. Lt. LaFave and Petty Officer Garcia are living testimonies to his inventiveness and ingenuity." □

*McKinley is a staff writer for All Hands.*

# Navy participates in

Story by JO2 David Masci

The switch is closed. Thousands of feet beneath the Nevada desert, a high-explosive charge detonates inside a sealed chamber. In less than one thousandth of a second, a “pill” of radioactive material is squeezed beyond its bursting point. Its atoms start to split, throwing off neutrons that cause other atoms to split, and an irreversible chain reaction begins.

One millionth of a second later, the temperature and pressure inside the chamber equal those of the center of the sun. The chamber’s walls are consumed by the fission reaction and an inferno of energy is unleashed.

Transforming matter to energy lies on the outer reaches of physics as we understand it. Scientists can create a nuclear weapon, but they constantly strive to improve its design and control its effects. Forty years ago, such progress depended largely on after-the-fact observation and trial and error. Today, the volumes of data collected from past nuclear tests are computerized. Researchers now can create a “modeling code” to feed into the computer and predict much of how a particular weapon will behave.

The Lawrence Livermore National Laboratory at Livermore, Calif., is one of only two places in the United States where such research is conducted. Since the laboratory’s founding 33 years ago, military officers have contributed to the design and development of nuclear weapons there as part of the military research associates — MRA — program.

Vice Adm. Glenwood Clark, head of the Space and Naval Warfare Systems Command, was one of the first MRAs. He entered the program when 95 percent of the laboratory’s research effort was nuclear weapons design and testing, according to Livermore’s deputy associate director Lyle A. Cox.

Cox coordinates with the Department of Defense to place each MRA in a specific area of research, partly determined by the officer’s background and interests.

“As times have changed, the weapons effort is about 50 percent of what we do, and the officers aren’t always strictly assigned in what we call the nuclear weapons program,” he said.

Of the three Navy MRAs in Livermore, one designs weapons, one works with high-powered lasers and the third studies environmental effects of hazardous waste.

The nuclear weapons designer is Lt. Mary E. Martin. Growing up in Throg’s Neck, a neighborhood in Bronx, N.Y., Martin said she always wanted to be a scientist.

“I started learning science by looking at some of my dad’s books from when he was in the Navy. He was an electrician’s mate and an interior communications electrician,” Martin said.

Years later she parlayed a master’s degree in physics into a teaching job. But the petite blonde physicist wanted more.

“I didn’t want to spend my life as a teacher,” Martin said. “I walked into the recruiter’s office and asked, ‘What do you have for someone with an MS in physics?’ One of the first things they asked me was how would I like to teach physics. I said, ‘Well, no, not really. That’s why I’m here.’ They finally talked me into it, though.”

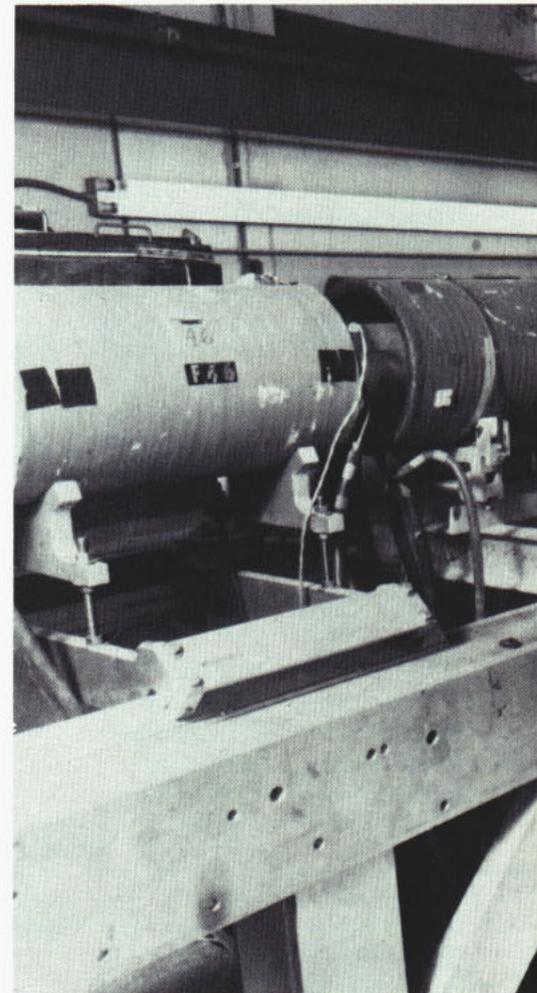
After she spent a tour instructing at the Naval Nuclear Power School in Orlando, Fla., Martin became the electrical repair officer on the submarine tender USS *Holland* (AS 32). It was aboard *Holland* that Martin first learned of the MRA program.

“It was something that instantly appealed to me,” she said. “I hadn’t done any hard and fast physics in almost 10

years. The beam research and the laser stuff are things they were just starting to talk about when I was in school.”

After being accepted into the program in June 1985, Martin began working with a team in the Lawrence laboratory’s “A” division.

“I work with the design of the nuclear weapons themselves,” she said. “Most of my work is done on a computer with the modeling codes.” The codes simulate weapon designs with different materials, shapes, temperatures and other variables. “What I work with are the basic beginning designs — how much, what shape



# hands-on research

and what sort of things come out.”

Martin said one of her most interesting experiences at the laboratory has been helping to build one of her team's designs for an underground test. She said it gave her a chance to practice some of the things she'd learned aboard ship.

“A lot of what I had learned about working in a ship applied — you do this, you don't do that. Terms, pieces, parts — everything just fell in place. It was great.”

Even though she hasn't been designing weapons as long as her civilian teammates, Martin said she feels like she

belongs. “They treat me like I'm one of them,” she said. “I'm not some outside spy or somebody who's here to kind of tag along. They give me real work to do, and they really sit down and look at what I do.”

According to Martin's team leader, Dan Patterson, the MRA selection process yields officers who can be incorporated directly into a project. “In a very short period of time they're doing work right along with the permanent staff,” he said.

Patterson, a senior nuclear physicist, has supervised many MRAs in his 30

years at Livermore. “Technology has not outstripped the capabilities of the people coming in. They tend to move right in and not flounder around,” he said.

In Martin's view, her three-year tour will not make her an expert on building weapons, but she said she can play an important part in deciding what weapons should go into the Navy's arsenal.

“I think it's important for the Navy to be more than just a user,” she said. “I don't think the Navy's going to expect me to sit in an office, design my own bomb and then build it for them. But what I learn here will enable me to make a judgment as to the merits of a proposed design.”

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Reaching further toward the forefront of technology, Lt. William Fritchie is researching the possibility of shipboard particle beam weapons — a sort of mini-“Star Wars” defense system.

The fact: Moving close to the speed of light, a focused beam of electrons can penetrate several inches of metal before releasing its energy, virtually guaranteeing destruction of its target.

The problem: The advanced test accelerator — ATA — at the Lawrence laboratory, the world's most powerful electron accelerator, is more than 600 feet long. At 50 million volts, ATA's maximum output is still below the requirements for a particle beam weapon.

The question: Can we design a compact accelerator capable of taking out multiple incoming weapons at short range within seconds?

There is no answer yet, but a team of

**Navy officers get into the nitty-gritty of weapons and laser development as well as environmental and biomedical research at the National Laboratory in Livermore, Calif. Photo by Bryan Quintado.**



# Hands-on research

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scientists at Livermore is working on it. Fritchie is one of them. He is a big, dynamic man whose baby-faced smile accents a sense of humor bred under tough circumstances — gunnery officer on the destroyer USS *Harry W. Hill* (DD 986).

“We had a captain who loved to shoot,” Fritchie said. “The ship’s primary mission is anti-submarine warfare, but boy, he wanted to melt that barrel down.”

Thus began the transformation of a Marquette University ROTC midshipman majoring in business administration

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***“It’s great for me and it’s great for the Navy because I’m actually applying what they spent three years and a lot of money trying to teach me.”***

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to a weapons specialist with a master’s degree in physics.

Fritchie’s second duty station was at the Naval Postgraduate School, Monterey, Calif., studying weapons science. It was there that he first heard of the MRA program.

“I hadn’t seen it publicized on big placards saying, ‘MRA wants you!’ It was just word of mouth,” he said.

His interest intensified after a visit to the national laboratory. “One of the things we did in the particle beam physics course was to take a field trip to Livermore. We got to visit the laboratory, and we also went out to Site 300 to see the advanced test accelerator,” he said. “My interest was overwhelming. I wanted to be a part of this.”

In order to immediately build upon his weapons training with an MRA tour

following postgraduate school, Fritchie switched from unrestricted line to engineering duty officer. This is a common choice for officers who choose to specialize in weapons development.

“I was going into a program I enjoyed,” Fritchie said. “It had to do with weapons, only these were state of the art. A lot of it is still on the blackboard, but that’s what’s really challenging about the job, the fact that every day it’s something new.”

Duty at the Lawrence laboratory is an ideal follow-on billet after postgraduate school, Fritchie said, because he is applying his new skills and continuing to learn. “I have a master’s degree in physics, and sometimes I feel like my education is not adequate to do the job. But I was surprised how much of the knowledge I gained at the postgraduate school has been applied here.

“It’s great for me, and I think it’s great for the Navy because I’m actually applying what they spent three years and a lot of money trying to teach me.”

Fritchie said working with civilian scientists gives him a better perspective for his eventual return to “normal” Navy duty. He also said the interaction benefits both communities.

“I’ve been able to contribute some of my knowledge about ships to the people here. They have no idea about the nuts and bolts. Something that you would feel is fundamental, they had never even thought of,” he said.

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Although weapons development is the main thrust of research at the laboratory, environmental and biomedical studies have spun off to examine the effects of radiation on the ecology. These studies range from predicting the earth’s post-nuclear war climate (the “nuclear winter” effect) to examining how shellfish absorb heavy metals.

Lt. Kathleen Watness is pursuing these biomedical studies at the Livermore laboratory. A native of New York City who grew up on Long Island,

Watness became active in environmental protection in high school. She went on to earn a master’s degree in environmental biology from Adelphi University in Garden City, N.Y., then joined the Navy in 1978.

The prospect of travel and challenging assignments attracted Watness most. “It’s nice when you can have the opportunity to do different things and explore different facets of your talents and personality without having to change employers,” she said.

Being a research scientist has always been her goal, but she never expected to do it in the Navy.

While stationed at the Naval Ocean Systems Center in San Diego, Watness became involved in studying the environmental effects of a substance called organotin. The anti-fouling compound is more effective than copper, and also is much more poisonous.

Toward the end of her tour at NOSC, her detailer recommended she apply for an MRA slot. “Basically, what I’m getting involved in is the study of environmental issues. That’s something the Navy needs to be concerned about,” she said.

Watness’s current project is determining if proteins found in mussels can be

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***“It’s a good combination of working with your hands and using your brain at the same time.”***

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used to measure pollution in the water where they grow.

“Mussels are really neat organisms to work with because they’re easy to keep in the lab,” she said. “You can keep them for long periods of time without feeding them, they’re easy to dissect and they’re very common, too.”



A mussel is removed from its tank and dissected at the national laboratory in a study of the effects of industrial pollution. Photos by JO2 David Masci.

Shellfish produce small proteins which "bind," or collect, metals like copper and zinc. These minerals are essential to their survival.

"The copper is a main component of the blood in these animals," Watness explained. "The proteins act as a storage depot for these metals, but they also have a high capacity to bind heavy metals like cadmium and mercury, which are toxic to the animals."

When exposed to heavy metals, the mussels produce more protein, which stays in their bodies.

"You can use it to a certain extent as an indicator of pollution," Watness said.

"You would tend to see much more of this protein in the animals from a dirty area than from a clean area."

Not all of Watness's research is restricted to the dissecting table. Her team goes out collecting specimens from different areas on the California coast.

"We actually get our hands dirty, which is kind of fun," she said. "It's a good combination of working with your hands and using your brain at the same time."

Being a military research associate is both a working and learning experience, Watness said. "Research science is a lot different from the rest of the world out

there. It's a working environment, but you're working to learn.

"You really learn to think critically and analytically. I would say that's probably the most important thing, learning to think critically and being able to pull things apart and correlate them."

In order to sustain the flow of critical, analytical officers into its weapons programs, the Department of Defense is trying to attract more qualified military research associate applicants. The number of officers at the Lawrence laboratory has dropped from 45 in 1972 to the current 16.

Cox said he believes the program simply needs increased visibility and that its benefits are self-evident. The MRAs get to work with leading-edge people and they get to see how the Department of Energy conducts business at its major laboratories, a way that's different from the way the Department of Defense conducts business.

"It's an excellent training ground for officers with a master's degree," he said. □

*OpNavInst 1211.4F describes the MRA program and application procedures. Call OpNav-981N, (202) 695-3633 or Autovon 225-3633 for assistance.*

*JO2 Masci is assigned to NIRA Det. 5, San Diego.*

# Bearings

## World travelers are 20/20

A 20th birthday and the 20th year of accident-free flying were cause for celebration at Oceanographic Development Squadron Eight (VXN 8) in Patuxent River, Md.

The free world's only squadron devoted to airborne oceanographic and geophysical research, VXN 8 provides the Navy's operating forces with vital information about the changing ocean environment.

The squadron uses the call sign

"World Travelers," and in their 79,000 accident-free flight hours, VXN 8 personnel conducted survey flights over all five oceans from six of the world's seven continents.

With a squadron contingent of 34 officers and 163 enlisted personnel, VXN 8 has five flight crews for their P-3 aircraft. Since the VXN 8 mission is non-combat-related, it has been able to earn the distinction of being the Navy's only operational P-3 squadron with women

serving as pilots, flight officers and air-crewmembers.

The squadron's duties include acquiring data on the earth's magnetic field, checking seasonal ice floes and monitoring ocean temperature distribution, currents, eddies and frontal zones. The squadron boasts a high rate of mission completion in some of the world's harshest environments. ■

— Story by Ens. Philip R. Kennedy, NATC/  
NAS Patuxent River, Md.

## New field kit developed to test paint

The military has long needed an acceptable method to determine the quality of paints before application, particularly for paints that would be stored for long periods. Through better chemistry, the Navy has developed that method.

The Naval Civil Engineering Laboratory, Port Hueneme, Calif., developed a portable field kit for testing paint. It

weighs less than 14 pounds, is the size of a briefcase and requires no technical training on the part of field personnel.

Dr. Peter J. Hearst, a senior research chemist and principal investigator, said the kit enables painters to conduct tests on oil-based and latex paints, the two coatings most widely used on military structures.

Hearst said the kit provides up to 14

different tests to identify defective or questionable coatings, and use of the kit also decreases lengthy and expensive laboratory testing.

The project was sponsored and funded by the Army's Construction Engineering Research Laboratory. The Navy's prototype kit is undergoing field tests at more than 100 installations. ■

## LCAC completes first operational deployment



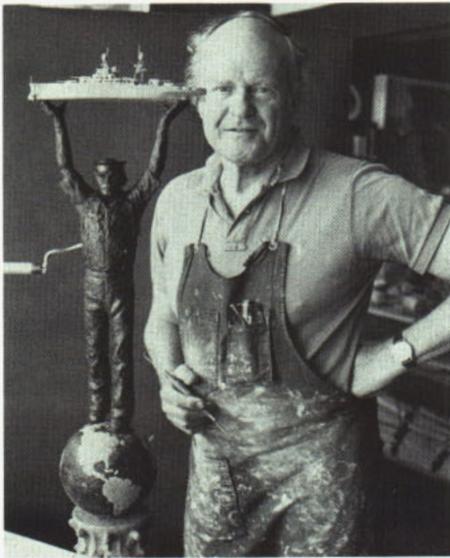
Three landing craft air cushion vehicles assigned to Assault Craft Unit 5, embarked aboard USS *Germantown* (LSD 42), recently completed the first overseas deployment of the LCAC.

During the course of the western Pacific deployment, the LCACs were highly successful participants in a number of amphibious exercises involving the U.S. Navy and Marine Corps and allied forces.

"We've been looking forward to this event for over two years," said Cmdr. Walt Fini, commanding officer of ACU 5. "It marks the final transition from a research and development-oriented organization to a full-fledged operational fleet unit."

Initial tests conducted in Florida and Southern California confirmed the LCAC to be a major innovation in amphibious warfare technology. While only 17 percent of the world's beaches are suitable for conventional landing craft operations, it is estimated that the LCAC will be usable on over 70 percent of the world's coastlines.

Like all hovercraft, the LCAC rides on a cushion of air. This means it is unaffected by submerged rocks, shoals or adverse tides and currents. Its speed of over 40 knots and its endurance make it effective in over-the-horizon landings, making beach defense more difficult for an enemy. ■



## Famous artist designs *Arizona* trophy

On Dec. 7, Chief of Naval Operations Adm. Carlisle A.H. Trost accepted a trophy commissioned to honor those killed aboard USS *Arizona* (BB 39) at Pearl Harbor. The trophy was presented at the Naval Museum in Washington, D.C., by Arizona governor Evan Mecham and Maj. Gen. Donald Owens, commander of the Arizona National Guard.

The trophy's designer and sculptor, Bob McCall, is a man familiar with the details of the Japanese attack.

"I've studied every document, photo, map and illustration I could get my

hands on," McCall said. "I even looked at captured Japanese films, which *Life* acquired, to better understand what happened. Naturally, that understanding has gone into the design of this trophy."

Despite all his work on the Pearl Harbor theme, McCall is perhaps best known for his links with American space exploration. His murals depicting the *Apollo* space project are seen by millions each year at the National Air and Space Museum in Washington, D.C. ■

— Story by JO2 (SW) Gary Ross, All Hands staff.

## From out-of-shape to shaped up

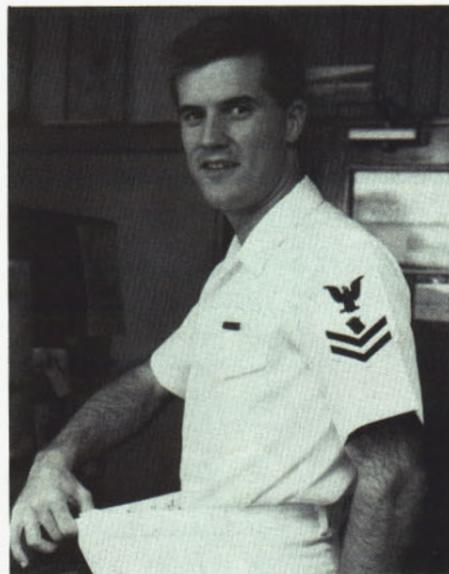
His hair is neatly cut, his Navy uniform crisply pressed — Personnelman 2nd Class David Dallas is the epitome of a young sailor conscientious about fitness and being "squared away."

But Dallas, assigned to active duty services at NAS Glenview, Ill., loves to tell the story about a 3rd class petty officer he used to know who was 50 pounds overweight, a heavy drinker, smoked four packs of cigarettes a day and had high blood pressure. In fact, his blood pressure was so high he suffered daily nose bleeds, and was once rushed by ambulance to the hospital, where doctors suspected he was having a stroke. All this, and he was only 21 years old.

Dallas knows this story well, for he was that sailor.

The birth of his first child convinced Dallas to shape up. "I remember when my own dad died," he said. "He was overweight and died of cancer at age 39. I was 18 and felt cheated by his death. I couldn't do that to my own children."

Dallas quit smoking and began a fitness program. He made typical beginner's mistakes. The first day, wanting instant results, he ran as far as he could,



three quarters of a mile. His regimen was playing basketball until he dropped, followed by running as far as he could.

Today Dallas is training more sensibly for a marathon. Every Sunday he's running in a meet, and his longest distance now is 13.5 miles. "My philosophy is, 'if you think it's good for you, then do it.' I started taking vitamins, eating lots of fruit and whole-grain products," he said.

Dallas begins his day with a six- to 13-mile run, and he does sit-ups and push-ups each night. In between, he eats good meals and drinks a lot of water. Every other day he lifts weights.

"No one can make you do it but you," Dallas said. "I was never motivated before — lax on haircuts, getting to work late and only a so-so performer. But after losing 72 pounds in six months, I can honestly say that my life changed 180 degrees. I'm a better husband and father and hopefully, a better worker."

In the two years since he's dropped his weight, Dallas has won Gold and Silver Wreaths for recruiting excellence and has been Sailor of the Quarter. He was selected to serve as driver for such high-ranking visitors as the Chairman of the Joint Chiefs of Staff, the Chief of Naval Operations, the Commander of the Naval Air Reserve Force and the Director of the Space Program, ". . . jobs I know I never would have gotten if I was still fat," Dallas concluded. ■

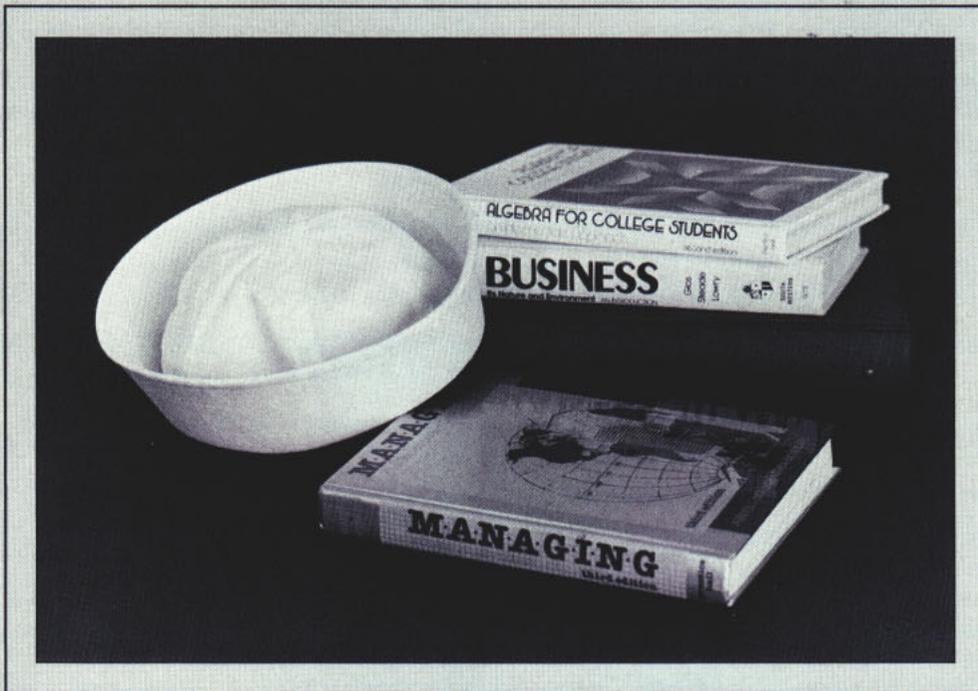
— Story by JO1 Linda Creesy, Public Affairs Office, NAS Glenview, Ill.

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## Navy Rights & Benefits

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# Education Opportunities

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# Education Opportunities

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*Education is an essential part of every service member's career. The Navy provides personnel with a wide variety of programs to assist them in every facet of civilian education, whether it's fulfilling requirements for a high school diploma equivalency certificate or completing a graduate degree program.*

*Schooling can meet purely personal goals, or be geared specifically for career growth. Here is a look at the basic education opportunities available to Navy members.*

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It is the goal of the Chief of Naval Operations to make education accessible to all naval personnel. And there are definite rewards for continuing education. For example, enlisted personnel advancing to pay grades E-4 to E-6 will be awarded two points in the advancement computation if they complete an associates degree while on active duty and an additional four points if they complete a baccalaureate degree after they enter the Navy. The Navy's commitment to accessible education is carried out through Navy Campus.

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## Navy Campus: The Navy's Voluntary Education Program

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Since Navy Campus was established in 1974, thousands of Navy men and women have taken advantage of the education opportunities at their disposal to earn:

- high school diplomas or equivalency certificates
- certificates of civilian apprenticeship
- vocational or technical certificates
- college degrees — associate, bachelor, or graduate

Navy Campus provides assistance every step of the way in defining and achieving individual goals with educational counseling, free testing services, financial aid, and personal counseling.

**On-Base Navy Campus** — The Navy brings college courses directly to Navy installations worldwide. More than 90 dif-

ferent colleges teach classes at 74 locations. Personnel can finish high school or begin to work on a college degree. There are also opportunities to improve basic competencies in reading, mathematics and writing.

**Program for Afloat College Education** — PACE makes it possible for personnel at sea to continue their college study. These courses were initially presented on film to the crews of *Polaris* submarines in the early '60s. Since that time, PACE has become a fully-funded program with civilian instructors employed under a contract by civilian colleges. This approach has limitations since some ships cannot take civilian instructors on deployment. The Navy is presently exploring (through the PACE II demonstration project) other ways college courses can be provided on every ship in the fleet.

**Tuition Assistance** — TA is available to all active duty personnel at congressionally-mandated levels. The Navy pays tuition costs at:

- 100 percent for high school completion
- 75 percent for all officers and enlisted

Navy Campus education specialists authorize TA for personnel participating in Navy Campus.

**High School completion** — Service members can complete high school requirements during off-duty time with the full cost of classes paid under Navy TA.

**Functional Skills Program** — A voluntary, on-duty program, Functional Skills is designed to improve reading comprehension, math skills and writing skills. It helps personnel polish basic skills needed to cope with practical on-the-job requirements such as writing evaluations and drafting letters. Up to 45 hours of classes are offered at most Navy bases and on some surface ships at no cost.

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## Service members Opportunity Colleges, Navy

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SOCNav is a consortium of 440 member colleges and universities that have agreed to reasonable transfer of credit and limited residency requirements for the military student.

Through SOC, a special associate's degree program, SOCNav was established for the Navy. Active duty personnel can earn an associate's degree in selected fields of study associated with their ratings or military occupations. Currently, 31 accredited colleges have combined to form a worldwide network in nine curriculum areas:

- Accounting
- Automotive Maintenance
- Aviation Maintenance
- Communications Electronics
- Computer Studies/Data Processing
- Digital Electronics
- Law Enforcement
- Management Science
- Flexible (General Studies) — The

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# Education Opportunities

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flexible network is used to accommodate specialties not represented by specific curricular networks.

All institutions in the SOCNav program agree to accept credit transferred from any other college in the network. The Navy is planning to have a total of 15 curricular networks in place over the next five years and is beginning to develop a baccalaureate level SOCNav.

**Certificate/Degree Program** — Under this option, selected civilian institutions waive all residency requirements for a college degree. Navy personnel must meet the institution's own requirements, sign a Letter of Agreement and complete the program within 10 years. The agreement between the Navy student and the college is valid even upon separation from the Navy.

**Apprenticeship Program** — This program gives Navy enlisted personnel a means to apply Navy training and credited work experience in their technical skills to civilian journeyman certification. Apprenticeships are available through agreement with the Department of Labor in 15 ratings, with additional ratings under development. Up to 50 percent of the total required training can be satisfied by appropriate previous experience.

**Earning college credits for Navy formal training** — The excellence of Navy technical training is widely recognized in the academic world. The American Council on Education believes that the military's special ability to train and develop highly-skilled individuals in many fields can have an impact on post-high school education.

ACE sends evaluation teams to Navy schools to examine course outlines, visit labs as well as classes, and talk to instructors. Their recommendations on the number of credits that should be given for completing the Navy courses are published every two years in the Guide to Evaluation of Educational Experi-

ences in the Armed Services. The ACE guide also translates Navy technical school courses into course titles at civilian institutions. The majority of American colleges use the ACE guide recommendations to award Navy personnel credit in a college program.

Navy Campus education specialists review credits earned in Navy schools as well as the credits the ACE guide recommends for experience in a particular rating. Total credits earned in the Navy are then combined with other credits accepted by the college for previous civilian schooling. The result can be an accumulation of significant credits toward a college degree.

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## Defense Activity for Non-Traditional Education Support

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DANTES is an agency which supports the voluntary education programs of all the armed services. Non-traditional education typically means that the educational experiences did not take place in a formal classroom. To document that experience, DANTES runs a comprehensive examination program.

DANTES testing sections, located at major shore stations and on many large ships, provide for the administration of examinations. Navy Campus education specialists give the tests.

These tests allow Navy personnel to be certified by national registries in their occupational and professional specialties. DANTES has agreements for certification with more than 18 organizations.

The DANTES Independent Study Catalog lists courses from accredited colleges and universities approved for tuition assistance reimbursement. In addition, the DANTES Guide to External Degree Programs provides information about institutions which offer external degrees.

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## Enlisted Education Advancement Program

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EEAP offers career-motivated enlisted members the opportunity to pursue a course of instruction at a participating junior or community college leading to an associate of arts/science degree in a rating-related or management-related discipline.

EEAP provides for the completion of associate degree requirements to improve qualifications for advancement and to improve supervisory abilities of high-quality enlisted personnel. Selectees will receive full pay and allowances (less proficiency pay), but will pay all costs for tuition, books and other fees.

The course of study must continue through the summer months and the requirements for an associate degree must be completed in 24 calendar months or less. Six years of obligated service will be incurred in exchange for the opportunity to participate in the program.

Eligibility requirements for EEAP are:

- Be on active duty in paygrade E-4 or above
- Have at least four years, but not more than 14 years of active service as of Sept. 1 in year of application
- Be a high school graduate or have passed the GED test
- Have a word knowledge/arithmetic reasoning of at least 110 on the Armed Services Vocational Aptitude Battery Test
- Have successfully met Navy physical fitness standards within the past 12 months
- Have no record of conviction by court-martial, non-judicial punishment or by civil court for other than minor traffic violations during the previous two years
- Must agree to re-enlist or extend

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# Education Opportunities

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enlistment to have six years of active obligated service as of enrollment date

- Must be recommended by the commanding officer OpNavNote 1510 has further details on EEAP.

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## Enlisted Commissioning Program

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ECP is an undergraduate program that provides an opportunity for outstanding, career-motivated active duty enlisted personnel in the Navy or Naval Reserve, who have previously earned college credit to earn a regular commission.

Selectees will be ordered to the ECP on a permanent-change-of-station basis and enrolled in a participating Naval Reserve Officers Training Corps (NROTC) host university. ECP students receive full pay and allowances for their enlisted paygrades and are eligible for advancement. Tuition, fees, books and other expenses incurred while participating in the ECP will be paid by the student.

Selectees are expected to complete degree requirements for a non-technical degree in not more than 30 calendar months or a technical degree in not more than 36 calendar months, attending school on a full-time, year-round basis. Eligibility requirements for the ECP are as follows:

- Be a citizen of the United States.
- Be an enlisted member of the Navy or Naval Reserve on active duty and have completed at least four years (of which three years were in other than a school environment), but not more than 11 years of active service as of Sept. 1 in the year of enrollment.
- Have completed sufficient undergraduate course work to complete requirements for a non-technical degree in 30 months or technical degree in 36 months.
- Be at least 22 years of age, but able

to complete degree requirements and be commissioned prior to 31st birthday.

- Have a cumulative grade point average of 2.5 or better on a 4.0 scale (GPA is based on grades for all courses taken).

- Have a certified copy of the Scholastic Aptitude Test or the American College Test scores from test taken after Aug. 31 of the preceding year. Acceptable scores for this program are 430 verbal/520 math on the SAT, or 19 English/24 math on the ACT.

- Meet physical standards for officer candidates.

- Have no record of conviction by court-martial, non-judicial punishment, or civil court for other than minor traffic violations during the two years preceding Nov. 1 of the year of application. Have no record of a felony conviction (military or civilian) regardless of the date, or any record of drug abuse while in an enlisted status.

- Be recommended by the commanding officer.

Interested persons should see their career counselor and check OpNavNote 1530 or contact the Enlisted Commissioning Program Manager, Chief of Naval Education and Training, NAS Pensacola, Fla. 32508-5100 for additional information.

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## Broadened Opportunity for Officer Selection and Training

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The BOOST program is an academic program which enables enlisted personnel to acquire the scholastic skills and academic credentials to pursue a naval commission through established commissioning education programs such as the Naval Academy or NROTC.

The academic program at BOOST provides college preparatory instruction emphasizing mathematics, physical sciences, and communication skills of

reading, writing, listening and speaking. Included in the program are educational and personal counseling, development of study skills and time management. The basic program is followed by an eight-week NROTC preparatory session for participants receiving NROTC scholarships.

Eligibility requirements for BOOST are as follows:

- Prospective NROTC Scholarship Program applicants must not have reached their 21st birthday by June 30 of the year entering BOOST school. Candidates with active service in the Armed Forces prior to entering BOOST school may be granted a waiver on a month-for-month basis up to a maximum of 27 months.

- Prospective USNA candidates must not have passed their 21st birthday on July 1 of the year entering BOOST school, and must be unmarried with no dependents.

- Minimum Scholastic Aptitude Test scores for eligibility are: 390 verbal/460 math. Minimum American College Test scores for eligibility are: 17 English/20 math.

Interested personnel should see their career counselor and check OpNavNote 1500 or contact the BOOST program manager at the Chief of Naval Education and Training, NAS Pensacola, Fla. 32508-5100 for additional information.

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## Education and Training Management Subspecialty

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The ETMS program prepares officers to manage education and training activities. Billets are located throughout the Naval Education and Training Command and at other activities in ranks of O-3 through O-6.

The graduate level curriculum that qualifies officers for the ETMS subspe-

# Education Opportunities

cialty code combines education and training principles with general management. To satisfy the education requirements for this subspecialty, officers complete course work in such areas as: organizational development; educational research and psychology; resource planning and programming; applications of computer technology to education and training; contract administration and evaluation; and design and evaluation of technical training programs. Officers can usually complete the full-time curriculum in 12 to 15 months.

The officer subspecialty is now available and fully funded at the following universities: Stanford, Harvard, George Washington (Washington D.C.), Old Dominion (Norfolk, Va.), San Diego State, Memphis State, and the University of West Florida (Pensacola). In addition, an off-duty curriculum is available at most of these universities and at the University of North Florida/Jacksonville University as well.

For more information on ETMS, contact Chief of Naval Education and Training, Officer Accessions, or NMPC 440 at Autovon 922-4994.

## Veterans Administration Programs

The Veterans Administration manages three basic educational assistance programs for service members and veterans: the Vietnam Era GI Bill, the Veterans Educational Assistance Program and the Montgomery GI Bill of 1984 (new G.I. Bill).

**Vietnam Era GI Bill** — Veterans who served on active duty for more than 180 continuous days, any part of which occurred after Jan. 31, 1955, but before Jan. 1, 1977, and (a) were released under conditions other than dishonorable, (b) were discharged for a service-connected disability, or (c) continued on active

GI Bill Rates				
	No Deps.	1 Dep.	2 Deps.	Each Add. Dep.
<b>INSTITUTIONAL</b>				
Full time . . . . .	376	448	510	32
Three-quarter . . . . .	283	336	383	24
Half time . . . . .	188	224	255	17
<b>COOPERATIVE</b> . . . . .	304	355	404	23
<b>APPRENTICESHIP/OJT</b>				
1st 6 months . . . . .	274	307	336	14
2nd 6 months . . . . .	205	239	267	14
3rd 6 months . . . . .	136	171	198	14
4th 6 months . . . . .	68	101	131	14
<b>FARM COOPERATIVE</b>				
Full time . . . . .	304	355	404	23
Three-quarter . . . . .	228	266	303	16
Half time . . . . .	152	178	202	11
<b>ACTIVE DUTY, OR LESS THAN HALF TIME</b> . . . . .				
Tuition cost, not to exceed rate of \$376 for full time; \$283 for 3/4 time; \$188 for 1/2 time or less but more than 1/4 time; \$94 for 1/4 time or less.				
<b>CORRESPONDENCE</b> . . . . .				
Reimbursed at a rate of 55 percent of the cost of the course.				

duty, are eligible for educational benefits under the Vietnam Era GI Bill.

Also eligible are those who contracted with the armed forces and were enlisted in, or assigned to, a reserve unit before Jan. 1, 1977; and who, as a result of this enlistment or assignment, served on active duty for more than 180 days — any part of which began within 12 months after Jan. 1, 1977 — and who were discharged from active duty under conditions other than dishonorable.

Each eligible person with 18 continuous months or more of active duty is entitled to 45 months of full-time educational benefits, or the equivalent in part-time benefits. Those with less than 18

continuous months of active duty are entitled to 1.5 months of full-time benefits (or the part-time equivalent) for each month of active duty served. The table above shows the various monthly amounts a veteran will receive under the current rates for Vietnam Era GI Bill users. These payments are non-taxable.

Programs of education approved for training under the Vietnam Era GI Bill include apprenticeship, on-the-job training, and cooperative programs. A cooperative program is a full-time program of education. It consists of institutional courses and alternate phases of supplemental training in a business or industrial establishment. Full-time institutional

# Education Opportunities

training consists of 14 semester hours unless the school has certified to the VA that it considers 12 hours to be full-time. Vocational or educational counseling will be provided by the VA on request.

Under the law, each person is entitled to one change of program. Subsequent changes may be approved by the VA. A change from one program to another, when the first is a prerequisite to the second, is not considered a change of program.

Veterans who have not received a high school diploma (or equivalency certificate), or who need deficiency or refresher courses before enrolling in a program of education or training may pursue these courses without charge to their basic entitlement.

GI Bill eligibility generally ceases at the end of 10 years from the date of the veteran's release from active duty or Dec. 31, 1989, whichever occurs first. Eligible members with continuous active duty from Oct. 19, 1984, through June 30, 1988, will be automatically converted to the Montgomery GI Bill on Jan. 1, 1990.

**Tutorial Assistance** — Veterans who use the GI Bill may also be eligible to participate in a program of tutorial assistance. Its purpose is to assist veterans/students to successfully complete an educational goal by providing special help to overcome deficiencies in required subjects.

The veteran's school must certify that tutorial help is needed to correct a deficiency in a course which is an essential part of the veteran's program of study.

Veterans may receive up to \$84 monthly for tutoring until a maximum of \$1,008 is received. Payments are made as reimbursements, not as advance allotments. Application for reimbursement should be made promptly after completion of the month or term in which tutoring was received. Benefits may only be paid, however, for tutoring received within the one-year period preceding the

Veterans Benefits Timetable	
AFTER SERVICE YOU HAVE	BENEFITS
10 years	<b>Montgomery GI Bill:</b> The VA will pay you while you pursue an approved program of education.
10 years or until Dec. 31, 1989, whichever comes first.	<b>Vietnam Era GI Bill:</b> The VA will pay you while you complete high school, go to college, learn a trade, either on the job or in an apprenticeship program.
10 years	<b>VEAP:</b> The VA provides financial assistance for education and training of participants.

date the claim was received by the VA.

**VA Work-Study Program** — Veterans using their GI Bill educational benefits who enroll full-time in college-degree vocational or professional programs may "earn while they learn" under the VA work-study program. Veterans in a vocational rehabilitation program are also eligible to participate in the work-study program.

Selection of applicants is based primarily upon a veteran's need to supplement monthly educational assistance or subsistence allowances. The number of applicants selected will depend upon the availability of VA-related work at the veteran's school or at VA facilities in the area.

Veterans may work a maximum of 250 hours per semester (or other enrollment period). Payment will be at the rate of \$3.35 per hour, or an amount equal to the hourly minimum wage, whichever is greater. A veteran may work less than 250 hours, depending upon work availability, class schedule and personal needs.

Under the work-study agreement, veterans may receive payment for 40 percent of the hours of services in advance. After the advance, additional payments are made in arrears for each 50 hours of

service performed under the agreement.

Services performed under the VA work-study program must be VA-related in nature. Examples of such services might include processing of VA paperwork at schools or VA regional offices, outreach services under the supervision of a VA employee, and services performed at VA medical facilities and offices of the VA National Cemetery System. These examples are not all-inclusive — the nature of work will depend upon a veteran's interests and the type of work situation available.

## Veterans Educational Assistance Program

VEAP replaced the Vietnam Era GI Bill for service members who entered the Navy for the first time during the period Jan. 1, 1977, through June 30, 1985. To remain eligible for the VEAP, members must have initially enrolled prior to March 31, 1987, or during the period Oct. 28, 1986, through March 31, 1987. Eligible members may contribute to the VEAP either by monthly allotments of \$25 to \$100 (in \$5 increments), or by lump sum contribution. Members must agree to participate in the VEAP for a

# Education Opportunities

minimum of 12 consecutive months, but disenrollment prior to 12 months is permitted in cases of financial hardship. The maximum amount that a service member can contribute is \$2,700. The Navy will match contributions at a rate of \$2 for every \$1 contributed by the participant. With Navy matching funds, the maximum account amount is \$8,100.

Participants receive monthly benefit payments based on the number of months they contributed, or for 36 months, whichever is less. The maximum monthly benefit payment is \$300. Benefits may be used in the same education programs authorized under the Vietnam Era G.I. Bill except for cooperative programs.

If entry into the service was on or before Sept. 7, 1980 (enlisted), or Oct. 16, 1981 (officer), veterans must have served on active duty for a continuous period of more than 180 days or have been discharged for a service-connected

disability. If entry into the service is after the above listed dates, veterans must serve on active duty for a continuous period of 24 months. Benefits may be used in service after completion of the first obligated period of active duty or six years, whichever is less. Participants have 10 years from the date of last discharge or release from active duty within which to use these benefits. The Navy's governing directive of the VEAP is OpNavInst 1780.1.

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## Montgomery GI Bill Act of 1984

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The Montgomery GI Bill Act of 1984 established a program of education benefits for individuals initially entering military service after June 30, 1985. Service members will have \$100 per month deducted from their pay for the first 12 months of their service, unless they specifically elect not to participate in the program. Service members eligible for the Vietnam Era GI Bill as of Dec. 31, 1989, with continuous active duty from Oct. 19, 1984, through June 30, 1988, are also eligible for the Montgomery GI Bill with no reduction in pay required. Naval Academy or NROTC scholarship graduates commissioned after Dec. 31, 1976, are not eligible for this program.

Active duty for three years, or two years active duty plus four years in the Selected Reserves, will entitle an individual up to \$300 per month for 36 months. Benefits accrued under the Montgomery GI Bill can be utilized for residence programs in institutions of higher learning, residence courses in non-college degree schools, correspondence courses, apprenticeships and on-the-job training. In-service use of benefits is available after two years of active duty, and veterans have 10 years after discharge to use their benefits. An honorable discharge is required.

An educational entitlement program

is also available for members of the Selected Reserve. Eligibility applies to individuals who, after June 30, 1985, enlist, re-enlist, or extend an enlistment for a six-year period. Benefits may be paid to eligible members of the Selected Reserve who complete their initial period of active duty for training and complete 180 days of service in the Selected Reserve. Full-time payments are \$140 per month for 36 months.

Further information on the Montgomery GI Bill can be found in OpNavInst 1780.2.

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## Graduate Education

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Graduate education is increasingly important to the naval officer as a means of enhancing professional development. There are several avenues available to achieve this goal, the foremost being fully funded graduate studies at either the Naval Postgraduate School, Monterey, Calif., or at selected civilian universities. Programs and year groups are provided in an annual OpNavNote 1520. Officers are selected based on professional performance, academic background (including off-duty education) and the Navy's requirements for subspecialists at regular lieutenant and lieutenant commander boards. Selectees remain eligible while they remain in that grade.

Currently, approximately 1,650 officers from all services and some foreign countries are attending the Naval Postgraduate School and studying such curricula as aeronautical and naval systems engineering, communications, electronic warfare, command and control, anti-submarine warfare, national security affairs, management sciences or computer technology. An additional 150 naval officers per year enter civilian institutions to study naval architecture, ship construction, civil engineering, supply systems management, religion or law. Quotas are available for all curricula.

## Keep VA posted

It is essential for veterans to keep the VA informed of their current address. Records are kept at one of the two following addresses. A change of address must be sent to the location where the veteran's records are located. In addition to the new address, the veteran's name and file number must be included.

- Veterans Administration Center  
P.O. Box 8079  
Philadelphia, Pa. 19101
- Veterans Administration Center  
Federal Building, Fort Snelling  
St. Paul, Minn. 55111

# Education Opportunities

A limited number of officers (approximately 30 annually) may be selected for the Advanced Education Program. The AEP provides an opportunity for officers to attend a civilian university for up to 24 months of full-time study to complete master's level graduate study. Their studies must be consistent with their designators and lead to earning a subspecialty. Commissioned officers in grades of lieutenant junior grade through lieutenant commander are generally eligible. Participants receive full pay and allowances, but must pay their tuition and other educational expenses. The program is described in OpNavInst 1520.30.

Officers interested in either the Naval Postgraduate School or AEP can call the Assistant for Graduate Education for more information at Autovon 224-4932 or commercial (202) 694-4932.

Another alternative is the Scholarship Program. A limited number of officers can accept a scholarship or fellowship to undertake graduate studies leading to a P-coded subspecialty. Participants receive full pay and allowances for up to two years of study. Tuition and all other educational expenses must be paid by the scholarship donor or individual officer.

Program details are outlined in OpNavInst 1520.24.

Approximately five officers may be selected annually to study in the Law Education Program. This program provides up to 36 months of full-time, fully-funded study at an ABA-approved law school to earn an LLB or JD degree. Satisfactory completion of the program leads to assignment and detail as a judge advocate in the Navy. Officers who are college graduates and serving in paygrade O-3 or below and have served on active duty for a period of not less than two years, nor more than six years, are generally eligible to apply. Program details are in SecNavInst 1520.7D.

A final alternative is attending college on off-duty time. If the prospective curriculum is approved and meets subspecialty requirements, the Navy will provide funding through the TA program for up to 75 percent of tuition and related educational expenses. Individuals may also undertake any program on off-duty time utilizing GI Bill benefits, VEAP or personal finances.

For more information, personnel should check the current OpNavNote 1520 (Graduate Education Program) and

applicable program directives discussed above. In addition, the Office for Continuing Education at Naval Postgraduate School directs officer graduate work and provides self-study courses in specific areas.

## College Degree Program

The College Degree Program provides an opportunity for officers in grades of chief warrant officer 2 through commander to earn a bachelor's degree. Selected officers can take up to 18 months of full-time study to complete degree requirements in service-related fields at a civilian university. Participants receive full pay and allowances, but must pay their tuition and other school-related expenses. Program details are in OpNavInst 1520.26. □

## Navy Campus Education Specialists

Civilian education specialists are hired by Navy Campus to assist personnel in planning their education programs. The services of the education specialists are available without cost at most naval facilities in the continental U.S. and abroad. The education specialists help with such things as:

- assisting in establishing realistic education goals
- evaluating training and experience for credit

rience for credit

- recommending secondary and post-secondary institutions
- assisting in course enrollment and registration
- recommending specific courses and programs of study
- advising and obtaining financial assistance
- administering tests offered through DANTES (GED, ACT, SAT, CLEP)

## DANTES exams available:

- College-Level Examination Program (CLEP)
- DANTES Subject Standardized Tests (DSST)
- Scholastic Aptitude Test (SAT) and American College Testing (ACT) Assessment Program
- ACT's Proficiency Examination Program (PEP)
- General Education Development (GED). The GED is available free of charge to Navy personnel stationed overseas who seek a high school equivalency certificate or diploma. There may be a charge for testing within the continental United States.
- Graduate Record Exams (GRE)
- Occupational and Professional Certification Tests

# Mail Buoy

## Navy memorial statue

In regard to HMC (SS) Joseph A. Coppola's concern for the "out of uniform" Navy memorial statue — the statue is supposed to represent the essence of being a sailor — the challenge, loneliness, joys and sorrows of being in the Navy. The open coat and hands in the pockets reflect the sometimes trying times we all have serving in the military. If it is spit and polish you're looking for, frame the Uniform Regs.

—HM2 Terry Larkin  
Navy Recruiting District  
San Francisco, Calif.

## Japan: More than meets the eye

I found the cover story on Japan very informative. However, there are certain points to ponder.

The yen is not falling. In fact, it's stronger today since post-war. It is the U.S. dollar that has fallen — 46 percent since the agreement of the G-7 countries. (263 yen = \$1 in February 1985; 133 yen = \$1 November 1987).

While there is a mention of the Okinawa prefecture, there is not a single article on this vital island. Here, the U.S. Navy is a small but important part of the mission of the U.S. 7th Fleet. Since the return by the U.S. government in 1972, Okinawa has had to "fight the image" of being an outsider.

While I do not disagree with any item that JO1 Lynn Jenkins wrote about, it did however seem one-sided that Jenkins did not have the chance to explore not only Okinawa, but Misawa and Sasebo. I have been stationed in Japan since 1984 and have found the country an exciting tour of duty. I encourage you to explore the area outside of the Kanto Plain. There is more than the Tokyo metro area. It is there, outside of Tokyo, one can appreciate the "Land of the Rising Sun."

—JO2 Christopher Carmichael, NSGA  
Hanza, Japan

## Soap gets in your eyes

I am writing you concerning a picture in the October issue of *All Hands*. In your picture inside the back cover, you displayed a senior chief petty officer during a Navy Relief helo wash fund-raiser.

You stated that \$11,259 was raised for Navy Relief, which is a very worthy cause. The only problem was that the senior chief was not wearing his eye protection properly, thus promoting bad safety practices.

Safety is something we all are taught to practice at work. We should also teach others

to practice safety after work, during fund-raisers, etc.

A substantial amount of money was raised that day, but nowhere near the amount it would take to compensate for someone's eyesight or life for that matter! Eyesight and lives are irreplaceable.

The next time you decide to promote a good cause, take the time and use a picture that also promotes good safety.

—AMASN David Sutherland  
Aircraft Division Attack Squadron 95

• *The senior chief apparently didn't feel soapy water was that dangerous, but your advice is good.* — Ed.

## Engineering vs. Engineer

This is just an informal note to point out an error in an *All Hands* article.

Having transferred through several duty stations and been on five weeks leave this year, I've missed several issues of *All Hands* and noticed in my catch-up reading that the article on Kings Bay on Page 12 of the August 1987 issue contained an error considered very serious in certain circles. In the third paragraph the sentence about Capt. A. Kent Riffey: "A Civil Engineering Corps officer, Riffey oversees. . ."

There has never been a Civil Engineering Corps. There is a Civil Engineer Corps whose officers have studied civil engineering. I just thought I would point that out so that in the future a mistake like that can be avoided.

—Lt. Terry Preble  
Kaneohe, Hi.

## Correction

• *In the July '87 All Hands, Page 13, the photo of the late Cmdr. Joseph Z. Brown, commanding officer of USS Constitution at the time of his death, was incorrectly credited. The photo was taken by JO1 Millie Tamberg.* — Ed.

## The "notorious" HMS Rose

I have read with interest your article concerning HMS *Rose* but am curious as to why the adjective "notorious" should be selected to describe the activities of this British warship.

As your article points out, HMS *Rose* was given the assignment of suppressing smuggling activities in Narragansett Bay. In the discharge of these duties, HMS *Rose* was doing nothing more than enforcing the constitu-

tionally-enacted laws which applied to Rhode Island and the other American colonies; laws which every public official from Massachusetts Bay to the Savannah River had sworn to uphold. May we construe from your judgment on HMS *Rose* that, in some future article, we will read of the "notorious" anti-smuggling activities of the U.S. Coast Guard?

—Judson Callaway NSGA  
Edzell, Scotland

• *These 1775 laws were not "constitutionally-enacted" (there was no constitution until 1787), they were royally decreed by England's George III. Some Americans (who became known as "tories") supported the British tax-collecting effort, but their side lost (see "Revolution, American" in any encyclopedia). After the revolution, smuggling (which used to be patriotic) became illegal, and Alexander Hamilton shook the congressional money tree hard enough to start the Revenue Cutter Service. But that wasn't until 1790.* — Ed.

# Reunions

• **USS Lexington (CV 2)** — Reunion April 27-30, 1988, San Diego. Contact Walt Kastner, 466 Ivy Glen Drive, Mira Loma, Calif. 91752.

• **USS General H.W. Butner (AP 113)** — Reunion May 13-16, 1988, Albany, N.Y. Contact John Bianchi, 18 Stanford One, Amsterdam, N.Y. 12010; telephone (518) 843-0720.

• **USS Longshaw (DD 559)** — Reunion May 18, 1988, Davenport, Iowa. Contact Louis Reynolds, 4506 Sheridan, Davenport, Iowa. 52806; telephone (319) 391-1710.

• **USS Amsterdam (CL 101)** — Reunion May 19-23, 1988, St. Petersburg Beach, Fla. Contact Edward E. Jointer, 8355 Boca Gega Dr., St. Petersburg Beach, Fla. 33706; telephone (813) 367-4807.

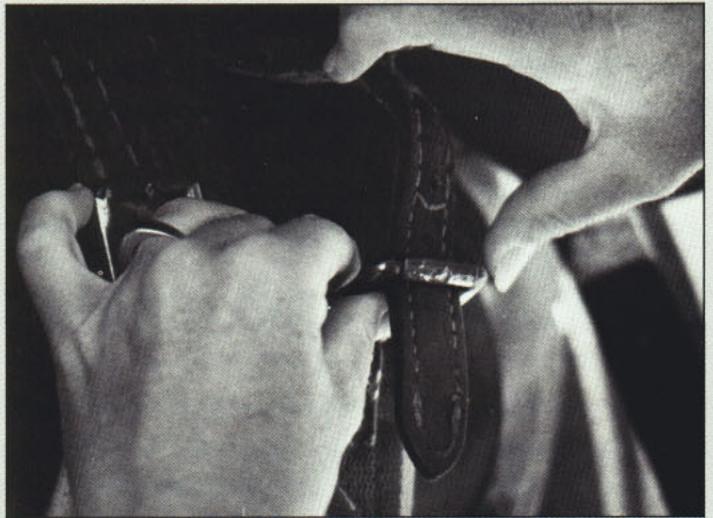
• **USS Zane (DMS 14)** — Reunion May 20-22, 1988, Tampa, Fla. Contact Colie Gruber, 5115 Gateway Drive, Tampa, Fla. 33615; telephone (813) 884-4019.

• **USS Conyngham (DD 371)** — Reunion June 2-5, 1988, Omaha, Neb. Contact Jack P. Dawson, 2912 Rogers Ave., Tampa, Fla. 33611; telephone (813) 839-0760.

• **USS William D. Porter (DD 579)** — Reunion June 9-12, 1988, Norfolk, Va. Contact Bill Glover, 6710 S. Merleing Loop, Floral City, Fla. 32636; telephone (904) 344-8792.

# Subic jumper

Photo essay by JO2 (SW) Greg Lewis



For an avid horsewoman, the riding only gets better and Lt. Cmdr. Nancy Stone is no exception to the rule. Stone, commanding officer at Subic Bay Naval Facility's Transient Personnel Unit, has been fascinated with equestrian arts since childhood.

Although Stone's main priority and responsibility is to oversee the speedy transit of the many sailors who pass through the Republic of the Philippines daily, she still makes the time to ride.

Here, at Subic Bay's El Kabayo Riding Stables, Stone is caught capping off riding practice with a successful jump. From cinching her saddle strap down tightly to giving her mare a final pat on the back, Stone displays the expertise and love of action which gives life to her fascination. □



**'The Signalman' by Walter Brightwell**