NEDU Reunion
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FACEPLATE

The Official Newsletter for the Divers and Salvors of the United States Navy
Volume 1, No. 2 / Fall 1995

POSSE calculations proved invaluable to the operation that freed these two vessels.

Collision in the Gulf of Mexico

Early in July, SEA 00C was called upon to help separate two ships that had become locked together in the Gulf of Mexico. On the morning of July 1, the Greek freighter *Alexia* collided with the Singapore-flagged *Enif*. It struck the port side of the *Enif*, penetrating the hull from the double bottom tank top to the main deck.

Shortly after arriving on the scene, the Coast Guard contacted SEA 00C to request engineering and salvage assistance. LCDR Rowland Huss was dispatched to the scene to perform the damage stability and structural calculations required to separate the ships. Using the Program of Ship Salvage Engineering (POSSE), Huss determined that *Enif* had enough damage stability and residual strength to withstand the separation attempt. Huss also helped to devise a plan to ballast the two ships to minimize the buoyant force that *Alexis* was contributing to *Enif*. Once stabilized, tugs worked the two ships back and forth to free them from each other on the morning of July 4. Navy salvage calculations proved invaluable to the success of this operation. ■

In This Issue

SUPSALV Sends

As I said in the last (and first) issue, this is your newsletter and you, the Navy diver, have favorably responded to the idea of FACEPLATE. With your continued support and input, we will not run out of worthwhile things to say.

This time I would like to touch on the highlights of the Working Divers Conference held in Little Creek on 20 and 21 July. This was the first time that this conference was held and from first take it was a huge success. The conference had four working groups: Underwater Ship Husbandry, chaired by LCDR Carlquist of CDU San Diego; Diving Physiology, chaired by CDR Knafelc of NEDU; Diving Systems, chaired by CUCM (MDV) Knopick of UCT 2; and Salvage, chaired by LCDR Scholley of LOGGRU 2. MDSU 2 did a superb job hosting this conference. My thanks to CDR Honey, LT Sherwin, and MSC Peters for their dedicated efforts that ensured success.

Each of the working groups dealt with a list of issues that had been submitted prior to the Conference. The groups dis-

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SUPSALV Sends

(from page 1)

cussed the merits of various recommendations and then arrived at a group consensus on how to solve each problem. There were over 150 participants who worked very hard to ensure that recommendations were accurate and doable.

There were 53 issues for which action was recommended. The chairs of the working groups are to be congratulated for the extremely difficult and important work they did in pulling their groups together. A complete list of issues and recommended actions will be sent to diving commands under separate correspondence. Many participants said that they wish that they had submitted issues for the Conference. Start getting your issues ready for the next Conference.

Some things that we can improve upon for the next Conference are to hold it earlier in the year (probably March 1996), demonstrate new equipment and procedures (will happen), make it longer (probably three days) and mail out issue papers to participants prior to the Conference (will look at putting papers on a bulletin board so that individuals can download the information — more on this in future FACEPLATEs).

Other things that we at 00C are currently working on are putting all of our manuals (Salvage, UWSH, Dive, Certification, etc.) on a CD (March 96 for selected manuals with other added at each six-month update), issuing the new Navy Dive Manual in June 96, and starting a Salvage/Diving Bulletin Board.

We suffered a tragic death recently in a diving operation. Although the investigation is ongoing, I must reemphasize to properly conduct PMS, pre-dive and post-dive checks, and follow safe dive procedures. DIVE SAFE!

CAPT R. S. McCord
Director of Ocean Engineering
Supervisor of Salvage and Diving

FACEPLATE is published by the Supervisor of Salvage and Diving to bring the latest and most informative news available to the Navy diving and salvage community. Discussions or illustrations of commercial products do not imply endorsement by the Supervisor of Salvage and Diving or the U.S. Navy.

Articles, letters, queries and comments should be directed to the Naval Sea Systems Command, 2531 Jefferson Davis Highway, Arlington, VA 22242-5160. (Attn: FACEPLATE)

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The "Not So Good" Old Days

From the November 1965 issue of FACEPLATE

BARALYME GRANULES INSIDE THE HEO2 HAT
BY F.R. COLLINS, SFC(DV)

It has been a minor problem (since shifting to baralyme) of the diver getting granules of baralyme spraying into the HeO2 hat, when gas is turned on or when the diver bends over to do a job.

The baralyme bounces around the hat and collects on the face plate and also down inside the bib.

This can result in the diver getting a burn from baralyme in the eyes or any part of his body where the baralyme granules are sticking if the diver is sweating.

We believe the baralyme granules are coming back up through the venturi tube, when the jet of gas hits the baralyme. Also when the diver bends over the baralyme spills back into the venturi tube and gas pressure causes the baralyme granules to travel back through the tube and into the hat.

By sweating a #20 mesh screen inside of the HE02 cannister at the goose neck entrance (where the operator assembly is) we have had good results in keeping baralyme granules out of the HEO2 hat.

Underwater Construction: U.S. Navy "Seabee" Style

by CDR(S) David M. Balk

Seabees of the Naval Construction Force (NCF) became involved — and famous — in construction diving during World War II in conjunction with the building of numerous advanced bases throughout the Pacific theater. Early projects included underwater demolition of reef obstructions and in-shore construction of channels, harbors, and mooring facilities for the Fleet. Most of the work was performed by specially trained Seabees qualified as divers assigned to the Naval Mobile Construction Battalions (NMCBs).

During the same period, several small, semi-independent units were being formed to perform combat underwater demolition, limited salvage, and underwater construction. These units were the predecessors of the Underwater Demolition Teams (UDTs), which originally included diver-trained Seabees and who were led by Navy Civil Engineer Corps Officers.

The mid-1960s saw renewed interest in ocean engineering and ocean facilities. A report published in September 1968 identified the need for a military underwater construction capability and recommended that one Seabee Underwater Construction Team (UCT) be located on each coast. In 1969 the first UCT was established at Davisville, Rhode Island, and was later moved to its current homeport of Little Creek, Virginia; the second UCT was established at Port Hueneme, California, and manned in 1971.

In February 1969, a team of Seabee divers provided underwater construction support for the *Tektite I* undersea habitat launched in 52 feet of sea water near St. John, U.S. Virgin Islands. The installation of the 160-ton undersea habitat was accomplished without the use of a floating crane. Instead, the Seabees configured an "underwater elevator" lifting system assembled from locally available pontoon sections.

The second large-scale project was the installation of the Azores Fixed Acoustic Range (AFAR) which commenced in March 1970 at Andros, Bahamas, in 1300 fsw. The AFAR project required underwater explosive demolition to produce a trench through the precipitous basalt submarine island shelf and install 1,500 feet of split pipe to each of the four large, double-armored power and signal cables. The Seabee divers devised an innovative procedure for application of the split pipe by under-running the cable with a causeway section and applying the split pipe on deck.

During the Vietnam war, Seabee divers' tasks included repair of damaged waterfront facilities and construction of new bridges, piers, and POL (petroleum, oils, and lubricants) facilities. Often the only diving personnel available, they also performed small boat salvage operations and security inspection swims.

Commencing in 1971, underwater construction divers were assisting with the building of the naval installation at Diego Garcia. Seabee divers performed a variety of harbor maintenance and construction services including mooring and repair

of the offshore sewage out-falls. Seabee divers at Diego Garcia also performed all subsurface maintenance on the desalination barge, which required blasting a new trench for barge mooring at the industrial "I" site.

Recognizing the need for a permanent capability for harbor, waterfront, and ocean construction, the Chief of Naval Operations formally established UCT One and UCT Two; both units were commissioned on 15 February 1974. The early teams were composed of 12 to 15 Seabee divers with additional divers and support personnel assigned for temporary duty from the NMCBs as project needs required. Today, the UCTs consist of 106 active duty and reserve personnel, 80 of which are Seabee Divers who are distributed among three active duty and two reserve Air Detachments.

Throughout their illustrious history, the UCTs have proven to be highly mobile units, staffed by exceptionally professional construction divers, capable of executing highly complex ocean construction projects, under the most adverse conditions. ■

CDR(S) David M. Balk, former Commanding Officer of UCT 2, is currently assigned to the Naval Facilities Engineering Service Center in Port Hueneme, CA.

SUPDIVE Answers Your Questions

Recently here at NAVSEA 00C3, we have received a lot of phone calls concerning the Divers' Preventive Maintenance System (PMS). These calls cover everything from questions on the new divers' gauge PMS to, (my all-time favorite) "why can't you tow a ROPER cart at 60 miles per hour?"

We are constantly in the process of updating the PMS. This update is going to take some time to accomplish, as we have to review each MIP and its corresponding MRC cards in their entirety. So, if you have any PMS problems, keep submitting those Feedback Reports (FBRs). We get a lot of good input through FBRs.

We have within the last year updated the Divers' gauge cal, the MK 20 Mod 0 UBA, and Divers' hoses and umbilicals, plus answering all the FBRs that you, the Fleet, have submitted. After submitting the FBR (concerning diving and diving-related equipment) to your 3M coordinator, he submits it to Squadron, who then it pushes up the line to the Tycom, who sends it to NAVSEACENLANT or NAVSEACENPAC, who logs it in and then sends it to us here at 00C3, where we get to answer it (and of course we send everybody a copy of our answer). After you get our letter with the answer, just follow its instructions. If there are changes to your PMS and you make pen-and-ink changes to your PMS paperwork, hopefully the next Semiannual Force Revision (SFR) will issue these changes in your new package. If the changes do not appear, have patience; there may not have been enough time to get onto the SFR. If this is the case it will show up on the next SFR.

Hopefully I have helped to clear up some of your questions on why it takes so long for FBRs to get answered and appear on your SFR.

Please keep submitting those FBRs. We need your input! ■

BMCM Gary Chancellor (MDV) can be reached at (703) 607-2766.

Destination: Aberdeen

USS Grapple (ARS 53) tows USS Osprey (MHC 51) loaded on barge from Norfolk, VA to Aberdeen Proving Grounds (APG) 7-8 August 95 for full-scale explosive shock test.

NEDU Report:

Evaluating the Gasmizer Diver Gas Recovery System

by CAPT(S) Marsh

The Navy Experimental Diving Unit (NEDU) serves as the Underwriters Laboratory for all Navy and diving life support equipment. We test many breadboard and advance development models of newly developed diving equipment, for example, the MK-15 and MK-16 as well as the EX-19 closed circuit rebreathers. With the shift toward off-the-shelf equipment, however, we have shifted gears as well and now find ourselves with two major goals:

- Better define or extend the operational limits for current ANU or certified equipments. Typical of this is our recent testing of the MK-24 full face mask with the switchover block, which allows for shifting in water from closed circuit to open circuit breathing gas sources without removing the mask. In the same vein, we are looking at extending the operating depth for the MK-3 lightweight dive systems.
- Test equipment that is available on the commercial market.

An unplanned effort that kept us busy in 1993 and 94 resulted from a diver filling a semi-closed circuit saturation rig canister with Sodasorb. Picture diver "X" doing predives on a rig, and as he fills the canister he gets a nose full of what smells like Windex. Of course, any inquisitive diver is going to ask themselves, "What the heck am I supposed to breathe, Windex at depth?" Well, that question quickly lead to NEDU warning 00C about this hazard and teaming up with several laboratories to track down the culprit. You, the Fleet, now have two different $C0_2$ absorbents and have actually seen some increases in mission times in some rigs as a result.

Back to commercial equipment testing. The Gasmizer system, produced by Gas Services Offshore Limited, is widely used in commercial diving but not in the U.S. Navy. The Gasmizer diver gas recovery system is a surface-supplied closed circuit underwater breathing apparatus (UBA) designed for depths of 30 to 500 msw (100 to 1650 fsw). The Gasmizer system recovers the gas mixture exhaled by a saturation diver, re-processes it, and delivers it back into the diver's supply system for reuse. The manufacturer claims in excess of 90 percent recovery.

The purpose of our NEDU study was to evaluate the breathing performance and normal operation of a prototype Gasmizer system and Secondary Life Support (SLS) backpack system for future integration into the fly-away saturation system. (***Author's note:*** The fly-away system was cancelled due to lack of life cycle funding after Deep Dive '94.)

Saturation systems must be tested in controlled conditions simulating depths and excursions into the ocean. The Navy's premier facility for this testing is the Ocean Simulation Facility (OSF) located at NEDU. The OSF provides a place for divers to live as if in a saturation bell and make excursions into the wet pot simulating ocean excursions.

Our study was meticulously designed to test this commercial system to the maximum extent of the Navy's saturation excursion tables, which exceeds the design limits of the normal Gasmizer. Normal reclaim mode testing was conducted across a range of excursion depths (from four storage depths) in cold water spanning from 60 msw (200 fsw) to 306 msw (1000 fsw). The SLS backpack system was tested in cold water simulating a worst-case scenario at 306 msw (1000 fsw). The normal reclaim mode was also tested in warm water at 61 msw (200 fsw).

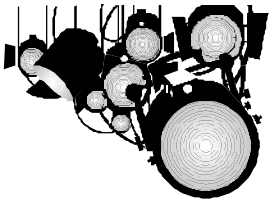
Our results indicate the Gasmizer system works very well and efficiently in its normal reclaim mode. The SLS backpack worked but needs further improvements and testing.

The Unit remains an asset to all the various diving communities: Fleet, SPECWAR, EOD, and deep saturation. We have expertise that is available. We are tasked by NAVSEA 00C's SUPDIVE, but if you have a specific requirement, call us and we can help you formalize the question. You can reach us at (904) 230-3100 or DSN 436-4351. ■

CAPT(S) Marsh, former Commanding Officer of NEDU, is currently the 7th Fleet Maintenance Officer in Singapore.

NEDU Reunion

The staff at the Navy Experimental Diving Unit (NEDU) are planning a reunion for the spring of 1997. Personnel who are interested in participating in this long past due event should contact Bob Barth NEDU, 321 Bullfinch Road, Panama City, FL 32407-7015 (904) 230-3100 DSN 436-4351.



COMMAND IN THE SPOTLIGHT:

Consolidated Divers Unit

The Navy's only command whose sole mission is underwater ship husbandry (UWSH) is COMNAVSURFPAC's Consolidated Divers Unit (CDU) in San Diego. By ensuring that safety and fleet readiness come first, CDU truly lives up to its motto "Excellence Under Pressure."

CDU was originally a detachment of Harbor Clearance Unit One and then Mobile Diving and Salvage Unit One. In 1986, the detachment was disestablished and CDU stood up as an independent command. The command's name stems from the 1979 consolidation of all of COMNAVSURFPAC's San Diego-based UWSH dive lockers. All non-deployed AD/AR dive teams were brought together under CDU's operational and administrative control. The consolidation was designed to optimize use of the type commander's diving resources in the area. One year later, productivity (as measured by both bottom time and number of jobs completed) had doubled with the same end strength of divers.

One benefit of consolidation that has emerged is the pooling of talent while maintaining upward career mobility among enlisted divers at CDU. Consolidation helped create experts in UWSH who completed consecutive sea and shore tours under the CDU umbrella by transferring between CDU and one of the associated AD/AR class ships. Today, there are two ESWS-qualified Chief Petty Officers who have been attached to one of the commands under the consolidation program for the past 10 years straight. Starting as young E-5s, they have maintained a viable career progression and are now Master UWSH technicians.

For the six months ending 30 June 1995, CDU's three waterfront support teams have amassed 1390 hours of bottom time repairing Pacific Fleet units. Although CDU has kept its plate full operationally, the command is always looking for new ways to provide unparalleled service to the fleet. The most recent capability the unit has cultivated is CV maintenance. CDU initially became involved in carrier maintenance less than a year ago by executing an emergent waterborne shaft lamination repair during a CV's pre-deployment availability. Because it delivered affordable, responsive, and high quality work, CDU is now sought by COMNAVAIRPAC as the dive locker of choice for San Diego-based CV UWSH.

The unit recently completed its first CV SRA, where one team completed six shaft lamination repairs; removed, refurbished, and replaced 12 fairwaters; and installed 384 zinc anodes. The 10-man crew expended 640 hours of bottom time to complete the job in 43 production days. Another SRA is in progress and at least two more are planned for 1995.

CDU has made great efforts to form areas of expertise in underwater ship husbandry. Difficult shaft laminations are now performed almost routinely. CDU has also maintained expertise in production underwater welding. Although only two production weld jobs have been completed this fiscal year, four more jobs are planned for completion by the end of September. CDU also maintains an Underwater Non-Destructive Test capability, which is required for underwater welding and shaft lamination repairs. A cadre of experts in these areas has been formed to preserve these "in-house" capabilities into the next century. Blanking operations, APU change-outs, propeller replacements, and other traditional UWSH tasks form the balance of work CDU conducts.

For out-of-area requirements, the unit maintains a rapid response posture to execute repairs as needed. Just recently, CDU divers completed a weld repair on an aircraft carrier in Yokosuka, Japan, and then provided underwater NDT services in San Francisco. During the past few months, the unit has mobilized crews in Long Reach, Port Hueneme, and at-sea in the vicinity of Camp Pendleton in support of emergent fleet repairs.

CDU took its place in history by directing and coordinating all phases of the waterborne replacement of *USS Supply's* port propeller. The 82,000-pound propeller, with a diameter of 23 feet, was reported by NAVSEA to be the largest ever

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Consolidated Divers Unit
(from page 6)

changed-out on a waterborne surface ship. To accomplish this immense project, CDU mustered support from NAVSEA as well as myriad San Diego activities including SUPSHIP, SIMA, FTSCPAC, PWC and USS *Cape Cod*. CDU took charge as the lead work center to complete the job in 25 production days, accumulating a total of 600 hours of bottom time in 117 days. In total, this repair saved over two million dollars in potential contractor costs.

Because CDU focuses solely on maintenance, it makes sense that CDU's ISIC is NAVSURFPAC READSUPPGRU, San Diego. Now CDU has been designated as San Diego's Regional Repair Center for all underwater ship husbandry conducted in the area. Although the implementation plan has not been finalized, the stated expectation is to achieve yet greater advances in providing customer support that is second to none. ■

LCDR Carlquist currently commands Consolidated Divers Unit. He can be reached at (619) 556-7126. On 22 September 1995, he will be relieved by LCDR Pappas.

UWSH Update:
Underwater Friction Stud Welding

Qualification of Navy divers for underwater welding has been, for many years, difficult to achieve. The stringent but needed requirements of NSTM Chapter 074 Volume 1, which assures quality and top workmanship for all ship repair, has deterred many Navy activities from pursuing qualifications. Friction stud welding, being somewhat autonomous, requires that most of the qualification effort be placed on the equipment and not the welder. The welder actually becomes an operator requiring minimal training and qualification. This has allowed activities such as the Norfolk Naval Shipyard (NNSY) and Mobile Diving and Salvage Unit One (MDSU 1) to successfully perform underwater weld repairs such as anode attachments, underwater fender replacements on YTBs, and submarine stern plane marker installations with minimal training and incurred cost.

The friction welding process has been used for centuries in the form of forging as a method of joining metals. Friction welding is considered a solid state process as no melting of material occurs. The weldment never exceeds the plastic state and the weld is formed by applying a compressive load while the weldment remains in the plastic state. A bond is created by super-cleaning, followed by an interchange of ions across the interface of the weldment. Therefore, no fusion zone is created and the Heat Affected Zone (HAZ) is small. As a result, the weld strength is equal to or greater than the base material. Problems from inclusions and porosity are eliminated since there is no liquid state during the friction process.

The process as we know it today was patented in the 1890s and utilized large machines that required enormous power supplies. It was not until the mid-1980s that the size of the machines was reduced, and the first portable pneumatic underwater friction stud welder was introduced for work in the North Sea. In 1992, NAVSEA initiated a program for evaluating and approving underwater friction stud welding for temporary attachment points for assisting in rigging, external blanking of sea chests for ship deactivation, and non-structural repairs.

Production work performed recently by NNSY and MDSU 1 with pneumatic friction stud welding systems was accomplished despite some equipment problems. The pneumatic systems were not designed for use in salt water and require a large, constant air supply. To remedy this situation, NAVSEA is in the process of procuring hydraulic underwater friction stud welding equipment that can be operated by a standard model 6 HPU. The first of these units has been received at our ESSM base in Williamsburg, VA.

Activities interested in using the friction welder must work with their welding shop to develop a written weld procedure. The command must then forward the procedure to NAVSEA 00C5 for review and approval. Following our review, NAVSEA will provide an on-site representative to witness the procedure and provide final approval. Thereafter, the command can use the friction weld system without NAVSEA on-site supervision. ■

For more information contact Rob Murray at (703) 607-2755.

Remembering SEALAB

by Bob Barth

Something you may not know...

This summer marked the 30th anniversary of Sealab II, which took place off the coast of southern California near La Jolla. The Sealab series was the final effort to prove that men could live in the deep ocean for long periods of time.

This concept is known today as Saturation Diving, an accepted method that allows us to conduct long and deep dives into the ocean. It has produced some amazing results. We have gone to depths and places that we never dreamed were possible, and even stayed long enough to stop and smell the roses. Who would have known almost 40 years ago that we would venture to beyond two thousand feet, stay for weeks, and live to tell about it.

It was not always that way. For hundreds of years man was restricted in his ability to work in the ocean by things he did not fully understand. As our understanding increased, we still had limitations because methods, knowledge, and equipment lagged behind. In 1957, Navy doctor George F. Bond changed all that, and the U.S. Navy embarked on an ambitious project that eventually led to what we have today.

For seven years Bond and a few of his followers worked with laboratory animals, and then Navy divers, to study the effects of helium and oxygen as a breathing medium for long durations at depth. This project was called Genesis. In most cases, the results of the Genesis testing were positive and eventually gave Bond ample reason to ask the Navy for permission to take his concept further. Permission was granted to take the idea to the ocean bottom and see if man could stay there a while.

Bond needed a way to get to the bottom and stay there. The small Navy base in Panama City, Florida provided the method. Hidden away in an old salvage yard at the base were some floats that had been used in a past mine-sweeping operation. The engineers at the Mine Defense Laboratory said that they could make a pretty good underwater house out of those floats and they sure did. Sealab I was born in the early part of 1964, tested in Panama City, and then taken to Bermuda. Four men took up residence in 193 feet of water living on the seabed for 11 days — a successful completion of Bond's quest to get man into deep water.

With Navy interest at a high peak, a new underwater habitat was designed and built at the San Francisco Naval Shipyard Hunter's Point. It was towed to the Naval Shipyard at Long Beach, where the crew of divers destined to occupy Sealab II assembled and prepared their new undersea house. Sealab II was then towed to an area about a mile offshore of the Scripps University at La Jolla and lowered to the bottom at 205 feet. On 28 August 1966, the first team of ten men entered the habitat and began their 15-day stay.

When the third team emerged 45 days later, the program was hailed as a success and the Navy knew Saturation Diving was here to stay. Some thirty years later a few Navy divers who were fortunate to have been involved in all this work can look back and be content that they had been part of something that put our diving navy into a new era.

Not all U.S. Navy divers are aware that their Navy pioneered Saturation Diving. Sometimes we have a tendency to focus on things that are negative and might steal a bit of our pride. I just thought you might like to hear about something we did and should all be proud of. ■

CWO Bob Barth, USN (Ret) can be reached at 904-230-3116.

Sealab I Diver and Support Crew, Bermuda, July 1964.

The USS Tawakoni (ATF 114)

Tug Sailors Keep Memories of Salvage Navy Afloat

by CDR Edward H. Lundquist

Today's salvage Navy does well to remember the shipmates that have walked the deckplates of the salvage ships of yesterday. There were lots of them —ships and shipmates. The ships included Fleet tugs, rescue tugs, auxiliary tugs, and old converted minesweepers. Some have survived into the nineties on active duty; others still serve in navies around the world. These ships are just too good to write off.

My own experience aboard the *USS Tawakoni* (ATF 114) entitles me to call myself a salvage sailor and a tugboater — proudly so. I earned my waterwings on the "Big T." I put her out of commission in 1978 — sadly so. I wrote a ship's history and published it in our 1977 "Last Cruise" book. That stirring story about the ship's exploits fifty years ago off Kerama Retto was retold in an article I wrote about the *Tawakoni* and fleet tugs entitled "Battle Stars and Battle Scars," published in 1989 in *Sea Classics* magazine.

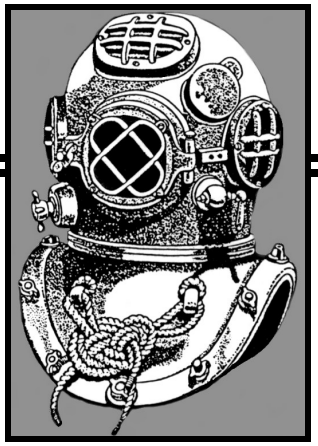
The response was enormous. Many tugboaters, who thought they had been forgotten, wrote and called me. Many wanted to start an association of fleet tug sailors. One of my new pen pals took "command." A yeoman, Bob Yates, of Santa Rosa, Calif., took the list of people who had written, and together we started the National Association of Fleet Tug Sailors (NAFTS). The association, like the tugs we served on, was not built for speed. We slowly gained members and held our first reunion in 1991 in Orlando. Two hundred people attended. In 1994, over 400 people joined together in Virginia Beach. Today, over 1100 people have become NAFTS members.

The 1995 convention will be Sept. 13-17 in Pensacola, Fla. The association's president and reunion chairman is George Kingston. He can be reached at 1611 Woodbridge Circle East, Foley, AL 36535-2267; phone (334) 943-7823.

Why NAFTS? Because salvage sailors deserve the recognition, and they have some great stories to tell that only another salvage sailor would believe. It may not be glamorous like a battleship or a carrier, it may not have the sex appeal of the silent service's submarines, or the attention given to the tin can sailors. But ask anyone who ever got pulled off a reef or towed out of a combat situation by a fleet tug and they all agree that the salvage Navy has its share of heroes. ■

CDR Edward H. Lundquist is currently the director of public affairs and corporate relations for the Navy Exchange Service Command in Virginia Beach, VA. He can be reached at (804) 631-3605.

The OLD MASTER



by MMCM(MDV) Dennis Wiley
BUPERS - Fleet Diver Detailer
(703) 614-1091

During the past thirty years, I have seen many changes in the field of Navy diving. Intellect, attitudes, technology, equipment, and procedures have changed tremendously.

Today's divers are smarter and much better equipped to get the job done. The type of diving operations done now demand that a diver be more than a deep-sea diving, double-crimping combat salvor. He must be an underwater operator and technician. Although knowing which way to turn a wrench is still important, a diver must also be multi-talented: technically proficient, book smart, computer literate, and highly adaptable to change. Above all, a diver must be a strong leader in every respect of the word, including the role of Diving Supervisor.

Years ago there was little of the emphasis that is currently placed upon the position of Diving Supervisor. Competency has not always been a determining factor. In some cases Supervisors were designated on the basis of seniority alone, and sometimes by the fact they "socialized" with the right crowd. The Master Diver had a small "Black Book" out of which came the magic that made a dive happen. What was in the book was taboo except to a choice few. Perhaps the "Black Book" was just a prehistoric version of the algorithmic tables and other high tech info used today. Perhaps not, but there had to be some type of sorcery involved. After all, in those days the Air Diving Manual was only about one inch thick and you could roll up the Gas Manual and use it for a fly swatter.

Today, designation as Command Diving Supervisor is a superior achievement. Business is done by the book, and I don't mean the "Black Book." Command qualification requirements are strenuous and expectations are great. Getting there is only half of the adventure. When you have "The Side" on your own, operating safely and surviving to supervise another day is the rest of the story.

So, I'll pass on to you a brief bit of philosophy —just a few words of wisdom. Considering that very few things in life consistently run a straight course, these four simple rules can be related to being a Diving Supervisor or virtually anything else you do.

Rule #1: "Things Happen!" *That fellow Murphy of "Murphy's Laws" fame was an optimistic, surface-dwelling common air breather. He probably never met you or any of your divers. Believe this: if it's going to happen, it will surely happen when you have the side; there probably isn't anything in the Diving Manual to cover it; and, if it's happened before, you can bet your next paycheck that it will happen again.*

Rule #2: "Be Flexible." *Properly brief the diving operation, but always be prepared to make rational changes once started. Be sure to emphasize flexibility during your brief. Don't allow yourself or your crew to be locked in on doing things only one way. Rule #1 will crop up. When it does you must be ready with your options. Remember, your divers and operational safety are your first concern.*

Rule #3: "If You Step in It — Don't Keep Standing in It." *The first rule of seamanship we learn is not to step in the bight of a line. We all find ourselves in a bight from time to time. The only thing to do then is to get out of it. When Rule #1 rears its ugly head, Stop-Think-Act. When you find yourself in a bight and you don't stop-think-act, you could go the wrong way and end up*

The Old Master (from page 10)

wrapped around the capstan. If you have a diving related problem, Stop-Think-Act. I'm not telling you to take the time to form a PAT or Steering Committee to help you make a decision. You have been well trained and evaluated. Rely upon your training and experience. Implement corrective action as fast as you can, making the safety of your divers your ultimate concern. And then — use the circumstance as a learning experience. Don't disregard it. Remember Rule #1.

Rule #4: "Dive the Diver — Not the Diving Manual." *U.S. Navy Diving Manuals are superior publications laden with technical and procedural details. They have been developed throughout the history of Navy Diving by the foremost diving, medical, and engineering minds available and are constantly reviewed and revised to reflect prevailing doctrine. They have been referred to by some as the "Diver's Bible." No matter how good they are, and no matter how much reverence is placed on their existence, Diving Manuals are only guidelines that specify the parameters within which we must operate. They are not put into harm's way — divers are. Use the Diving Manual's tables and procedures and your own experience to guide you in the way you conduct diving operations.*

Never forget — your divers come first. When Rules #1, 2, and 3 come into play, give your divers every advantage possible by using Rule #4. If it weren't for divers, there would be no requirement for Diving Supervisors. ■

The U.S. Navy Dive School: Not a Florida Vacation

by TMCM Frank J. Witunsky

The Dive School: What is it and what on earth are they doing down there, wherever "there" is?

"Welcome to the world's finest water sports and fitness camp! Come enjoy the fun and sun in this leisurely paced curriculum. No problem, anyone can pass."

This is, without a doubt, the attitude and mind-set of many students when they arrive at the Naval Diving and Salvage Training Center. They don't have a clue about climatization, conditioning, or academics or how the grueling, challenging, and varied curriculums will test their fortitudes. These challenges will stress them both physically and mentally.

While the Catalog of Navy Training Courses (NAVEDTRA 10500) lists some of the requirements for personnel attending Dive School, it only briefly mentions Navy Military Personnel Command (NMPC) article 1410380. The MILPERS article states that students must be in excellent physical condition. Little, if anything, is said about the fast-paced, demanding academic curriculum, with the exception that a minimum ASVAB score is indicated. Most of our attrition is due to improper screening, as described in the MILPERSMAN article, and a lack of preparation by the candidate. Failure of the PT screen and the 1000 yard swim accounts for over 50 percent of the failures.

If I may have your undivided attention for at least another thirty seconds, here is the Dive School in layman's terms:

Where We Are

Panama City, Florida is on the scenic Gulf Coast, better known as the Panhandle, about 90 miles east of Pensacola. The climate is extremely warm and humid from May through late November. The short winters are exceptionally mild. The Dive School is tucked away in the south end of the Coastal Systems Station (CSS) at the foot of the Hathaway Bridge and at the corner of US Highway 90 and Thomas Drive.

What We Do

Our mission is to train personnel to perform, supervise, and support specialized diving, marine salvage, and underwater ship husbandry operations. We train all services domestic and foreign, including DOD and DOT personnel.

Why We Do It

We train personnel in various curriculums as a service to our customer. What our customer

(continued on page 12)

Dive School

(from page 11)

wants we provide. The fleet *is* our customer and the requirements imposed upon us are determined at the Submarine/IUSS Training Requirement Review (SITRR), held every three years or as needed. The last SITRR was held in August of this year.

The training that we conduct here is as varied as the many curriculums, from the basics to the most advanced topics. What this means is that we train personnel to become divers! Divers must be physically fit to withstand the abnormal environment within which they operate. They also must understand the physiological changes that take place when operating within an underwater environment. They must also learn how to adapt and react to any situation that might become life threatening.

Diving is but a means of transportation in which personnel travel to their job sites. The jobs that must be done vary, since the mission profiles vary from underwater ship husbandry, explosive ordnance disposal, SCUBA, and salvage to Marine Combat diving. We teach personnel the modes of transportation to reach these missions. Personnel are trained in their mission profile roles at follow-on training sites or at fleet units where they learn and expand their skills taking the "Diving Community to New Levels."

TMCM (SS/SW/MDV) Frank J. Witunsky of the Naval Diving and Training Center can be reached at (904) 234-4651

In Memory

Captain James W. Greely, USNR, passed away 22 July 1995. He was a Salvage Engineer for battleship salvage at Pearl Harbor and later Supervisor of Salvage, U.S. Navy, from July 1954 to May 1957. As Vice President for Engineering for an offshore drilling company, he was responsible for the design and construction of semi-submersible and jack-up drilling rigs. Jim was active in the offshore engineering field his entire career and had a major impact on many of the salvage processes we use today.

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