

Needle in a Haystack

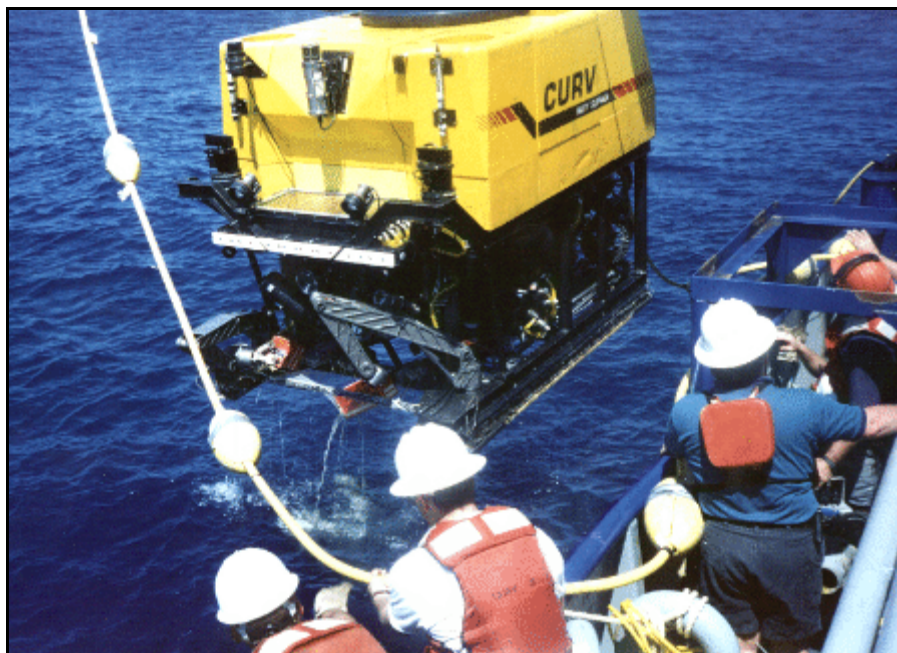
SUPSALV Recovers Flight Recorders from 757 Crash

by John Iler
NAVSEA Public Affairs Office

In ocean recovery, skill, precision, and timing are everything. Then there's luck. Captain Raymond "Chip" McCord, the Navy's Supervisor of Salvage and Diving (SEA 00C), excels in skill and precision, but too often, he says, timing and luck are in the hands of "the gods."

When a Turkish-owned Boeing 757 crashed February 6, moments after taking off from Puerto Plata in the Dominican Republic, the National Transportation Safety Board (NTSB) contacted SUPSALV. All 189 persons on board had perished and NTSB wanted to recover the voice and data flight recorders to de-

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CURV III is hoisted to the research vessel Seaward Explorer after a 7-hour recovery operation.

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SUPSALV Sends

We recently conducted the second annual Working Divers Conference (WDC). The WDC was again held in Little Creek and superbly hosted by MDSU Two.

From the feedback reports and informal conversation, the conference was again a huge success. This is attributed to the hard work by MDSU Two, Naval Reserve Detachment 1006, the chairpersons of the working groups, and the interested and dedicated involvement of the 150 attendees.

The conference was divided into three working groups: Equipment and Physiology (chaired by CDR Freeman of MDSU One), Personnel and Training (chaired by BMCN (MDV) Olson of CNSP), and Underwater Ship Husbandry (UWSH) (chaired by CWO2 Nelson of NSSF). As a result of the groups' discussions, 50 action items were assigned to 22 different commands. The working groups also followed up on last years conference; of the 52 point papers considered from last year, 28 have been completed, 8 required no action, and 16 are still in progress.

All point papers and proceedings from the conference will be available this year via a bulletin board for electronic access. Feedback forms were collected after the con-

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SUPSALV Sends(from page 1)

ference. In response to the recommendations, we are considering holding the next WDC in San Diego in the Fall of 1997.

Overall the enthusiastic response of the participants ensures the continued success of this conference. I want to thank the three chairs for their hard work and professionalism in guiding their respective working groups to the outstanding results each obtained.

The proceedings of this conference have been mailed out to all participants and diving commands. If you haven't seen it yet ask your chief or dive supervisor to share it with you.

A special note of congratulations goes out to LCDR Heide Piper, the Operations Officer in the UWSH branch of my office. LCDR Piper was selected for the astronaut program - mission specialist. She is the first Navy deep sea diver to be selected for the program and will re-

port to Houston in August of this year. We will miss her in SUPSALV, but our loss is NASA's gain.

Let me hear from you. Write, call, or E-mail me and let me know what is going with you and your dive locker. You can also access our new Home Page at <http://www.navsea.navy.mil/sea00c/run/hompg.html>.

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

INTERNET: MCCORD_RAYMOND_S@hq.navsea.navy.mil

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

Captain R. S. McCord, USN
Supervisor of Salvage and Diving
Director of Ocean Engineering
NAVSEA 00C

Jim Bladh
Head, Operations Branch, 00C22
Managing Editor

BMCM (MDV) Gary Chancellor, USN
Fleet Liaison Editor

Judy Kvedar
Production Editor

A Proud Tradition



CGM John Henry "Dick" Turpin, USN (Ret.) (1876-1962). First African American chief petty officer in the U.S. Navy, Turpin survived the explosions of the USS Maine (1898) and Bennington (1905). Qualified as a master diver, he was appointed chief gunners mate of USS Marblehead on June 1, 1917.

FLIGHT RECORDERS (from page 1)

termine the cause of the tragedy. The wreckage debris was scattered along the ocean floor to depths of up to 13,000 feet.

The enormity of the task, according to McCord, was akin to finding the proverbial needle in a haystack. Nevertheless, a little more than 7 hours after recovery operations began February 28, the Navy's state-of-the-art Cable-controlled Underwater Recovery Vehicle (CURV III) broke the surface with both recorders clutched securely in its robotic grasp.

"The acoustic beacons from the recorders began the second the recorders were exposed to water," said McCord. "The signals will usually be transmitted for 30 days before the batteries fail, so the decision was made quickly; we loaded up the equipment and got out there."

Search operations began February 14 when SUPSALV's Pinger Locator System towfish was deployed from the contract research vessel *Seaward Explorer*. Although the locator on board the towfish can pick up the recorder "ping" signals up to a mile away and fix the position of the signals to within 300 feet, the ocean currents, depth, and mountainous terrain of the ocean floor combined to make a potentially tough search.

"The pingers were heard on the first run over the high probability site determined by loss data analysis," said Keith Cooper, CURV Program Manager. "Six runs were made to precisely localize the pinger area." The Shallow Water/Intermediate Search Sonar (SWISS) side scan towfish was then deployed to map the debris field and a 45 kHz pinger



The flight data recorder lies on the sandy bottom of the Atlantic, 7,200 feet from the surface.

was dropped to fix the site in the event the pingers' batteries failed.

"The terrain where the aircraft debris was located was flat and all the debris was on top of the ocean floor in 7,200 feet of water," McCord recounted. "Only about a mile away, the bottom was cluttered with rocks and terrain that would have greatly hampered our ability to locate the recorders."

Once CURV III was launched for the actual recovery, the pinger signals guided it to the ocean floor. Reaching the inverted tail section of the aircraft, it homed in on the pings of the flight data recorder. Securing it with its starboard arm, CURV III then located the cockpit voice recorder, secured it in the port arm, and returned to the surface.

"It was one of our more spectacular, successful operations," McCord said. "We were tasked with the recovery in a timely manner, which allowed us to be in the right place at the right time. And the weather gods were on our side, because we had some nasty weather in front of us and behind us, but very cooperative weather in the operations area and in

this business I can't stress how important that is." All of the equipment worked without a glitch, which is also unusual.

But the planning, equipment, and skill of the people involved were the most important factors.

"To make it all work, we had to have a well thought out program, the right equipment and the right people — all ready to go at a moment's notice," McCord said. "The program managers, Keith Cooper, Lee Wolford, and the NAVSEA contractor Oceaneering Technologies deserve the credit for this.

"I believe this operation showed us at our best," he continued. "Taking all of what happened into consideration, and the fact that we received such good press coverage, that's why this is one of our spectacular and successful operations." ■

Analysis of the flight data recorder and cockpit voice recorder by the National Transportation Safety Board revealed that one of the 757's three air speed systems had malfunctioned, resulting in an overspeed warning. The voice recorder indicated confusion on the part of the cockpit crew, none of whom thought to consult the third system. The captain initiated an action to correct the overspeed and the copilot shortly thereafter advised that his airspeed indicator was decreasing. The crash occurred seconds later, less than two minutes after the aircraft had taken off from Puerto Plata.



COMMAND IN THE SPOTLIGHT:

Mobile Diving and Salvage Unit One

Emergent Repairs to USS *Oldendorf*

All those who think the holiday stand-down begins today, take one step forward. MDSU One, not so fast! Recently, Mobile Diving and Salvage Unit One of Pearl Harbor, Hawaii got a chance to do what they do best, and do so while under an intense spotlight. We're talking about Fleet Support. In this case, the emergent repair was to the USS *Oldendorf* (DD 972) Sonar Dome Rubber Window (SDRW).

Deployed with the *Nimitz* Battle Group, *Oldendorf's* sonar dome low pressure alarm went off during the westbound transit of the North Pacific. Indications were that the SDRW had ruptured. *Oldendorf* was ordered to transit to Pearl Harbor at best speed. Due to the critical role of *Oldendorf* in the Battle Group, simultaneous plans were put together to repair or replace the B.F. Goodrich rubber window. Dry docking would involve extensive disruption to the dry dock schedule, three weeks of holiday shift work, and cost \$16 million.

With messages flying at the highest level, MDSU One's Fleet Maintenance Diving Department began gathering data and putting together the logistics for patching the dome. As soon as *Oldendorf* was tied up and tagged out, Master Diver Robert Carmichael was in the water assessing the damage. A veteran of several rubber window repairs, Carmichael

was worried by what he saw. Two vertical splits ran for over 12 inches completely through the thick, steel-reinforced rubber. Further, the top of the split was dangerously close to the marriage line.

After a complete video survey, several "from the scene" cellular telephone consultations with NAVSEA OU61D Technical Expert Stan Silverstein, and meetings with *Oldendorf's* Commanding Officer and a large cast of concerned repair managers, the dual track repair plan was affirmed. MDSU One would attempt the repair. Simultaneously, all prepa-

rations would proceed for a possible dry docking.

Once committed to the repair task, MDSU One was determined that the alternate plan would not be needed. Trimming and preparation of the dome surface proceeded through the night. NAVSEA OU61D set in motion delivery of the SDRW Repair Kit with the cofferdam and water heater. NAVSEA contractor Global Associate's Phillips Cartner expedited delivery with Pearl Harbor Emergency Ship's Salvage Material Pool Manager Pete Redondo personally delivering all equipment to the MDSU One divers.

The cofferdam was rigged in a record two hours. Navy Diving veteran Chief Engineman Diver James Anderson, assisted by Diving Officer Lieutenant Chris Merwin and SDRW Repair School graduate Hull Technician Diver James Bradley, applied the patch and set up the envi-

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(Vietnam) JTF-FA and MDSU One personnel make the best of the limited assets available at the survey site.

MDSU ONE (from page 4)

ronmental controls for an optimum cure.

A suspenseful 24 hours later it was time to put the repair to the test. Increasing dome pressure 5 psi at a time, the patch was measured for any sign of failure. With 30 psi in the dome and no sign of failure, the first test was satisfactory.

Sea trials were next. Back to normal with low-glory ship husbandry jobs, MDSU One divers waited to hear the results of sea trials. *Oldendorf's* Commanding Officer was determined that if the repair were going to fail, it would fail now. Flank bells and pounding into the seas proved the quality of MDSU One's work. The *Oldendorf* was off to catch the Battle Group, firing off a most complementary message to the divers of MDSU One.

Commander, Naval Surface Forces Pacific, VADM Robinson added his praise for the Navy repair team, saying, "Returning *Oldendorf* to full operational capability in less than a week is a major accomplishment you all can be most proud of. The professional work by the MOB-DIVSALU Dive Team under the leadership of Master Diver Robert Carmichael was truly outstanding ... Your efforts returned a key ship to the operational commander. The aggressive, professional manner in which it was accomplished is a great credit to you and the Navy. Well done!"

Return to Vietnam

MDSU One was originally commissioned as Harbor Clearance Unit One on 1 February 1966 in Subic Bay, Republic of the Philippines. The mission of the command was to



(Vietnam) Tough menu decision: "Which snake should I have for dinner?"

provide rapidly deployable diving and salvage teams in support of the Vietnam conflict. The concept was so effective that the command was moved to its present location of Pearl Harbor, Hawaii at the end of the conflict, and an East coast counterpart, today called Mobile Diving and Salvage Unit Two, was formed in Little Creek, Virginia.

Thirty years later, MDSU One finds dive teams back in-country, this time, supporting the Commander in Chief, Pacific, Joint Task Force-Full Accounting (JTF-FA). This time, MDSU One's operations are much farther north than any war-time operations and for decidedly different purpose.

The Socialist Republic of Vietnam (SRV) has allowed the United States Government increasing opportunities to research and recover remains of our service members killed in action. A number of the sites are aircraft wreck sites located in coastal waters of the SRV.

In October 1995, a scuba survey team led by MDSU One Executive Officer Lieutenant Commander Dave Randall deployed to Vietnam to gather evidence at several sites off Nang An province. Their efforts resulted in the positive identification of one site and the elimination of several others. A MDSU One Salvage Team is scheduled to conduct recovery operations at the identified site in March and April 1996.

Conditions in Vietnam are far different than those found in Pearl Harbor, with the exception that the water is still warm. Zero visibility, abandoned fishing nets, possible unexploded ordnance, primitive support craft, and plenty of government red tape make conditions at sea challenging. Ashore, plenty of patience is required, but decisions are confined to choosing what kind of snake to order for dinner.

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MDSU ONE (from page 5)

T-ATF Salvage Training

MDSU One completed its third semiannual salvage training exercises the week of 7 November 1995. This exercise focused on retraction of a grounded ship using the T-ATF "Quick Reaction System."

Third Fleet scheduled USNS *Navajo* (T-ATF 169) to be in Pearl Harbor for a week prior to her tow of ex-USS *Mobile* in order to continue the series of valuable training exercises. MDSU One chose to utilize the Quick Reaction System capability of the T-ATF, a system which has been rarely, if ever, used since acceptance exercises. The Quick Reaction System is designed for use when a T-ATF cannot retract a grounded ship using her considerable bollard pull alone. The system is comprised of the ship's 8,000 lb. moore fast anchor and chain housed in the ship's



(Salvage training) Deploying the "bull rope" from the USNS *Navajo* (T-ATF 169).

bow. The moore fast anchor is deployed and used in conjunction with the ship's towing hawser and the ship's main propulsion to retract the grounded ship. ■

CDR Michael D. Freeman is currently Commanding Officer of MDSU One. Among other assignments, he has served as Executive Officer in USS *Opportune* (ARS 41), Executive Officer of MDSU Two, and Chief Staff Officer, Commander Combat Support Squadron Eight. Decorations include the Meritorious Service Medal (four awards), Navy Commendation Medal (two awards), Meritorious Unit Citation, and various campaign and service awards.



(Salvage training) Coming up to strain. Normally a pull of about 60,000 lbs. is required to free the training hulk *Tunica*.

WANTED

SUPSALV is trying to put together a display of salvage ship plaques. Unfortunately, no one thought to do this 25 years ago when we had lots of ships. Possible sources include clubs that are closing, shipyards, offices, etc. If you know of any plaques that are available please contact Tom Salmon at (703) 607-2758.

New Museum Highlights Navy Diving

by Ralph N. Enos

The Naval Undersea Museum at Keyport, Washington is the newest official Navy museum and has the mission to collect, preserve, and display material that characterizes the rich heritage of the United States Navy in its undersea work. Along with displaying the Navy's exploits in submarines, torpedoes, mines, and antisubmarine warfare, the museum features the story of Navy diving, salvage, submarine rescue and escape, SEALs and UDT, underwater recovery, and much else of interest to the Navy diving community.

The museum is building the best and most complete collection of diving artifacts in the nation. The collection includes a MK 7 swimmer delivery vehicle, McCann rescue chamber, MK 5 diving dress, early 1950s homemade SCUBA gear, Jim/NOAMADS suits, the MK 1 system suit with which a world record dive depth was set in 1973, Bob Croft's unassisted breath-hold record dive equipment, DSVs *Trieste II* and *Deep Quest*, and CURV III. The collection is growing all the time as the Navy sheds obsolescent capabilities and retired professionals donate their private collections.

Associated with the museum is the G. Russell Tatum Library, an important research center for study of the history of undersea technology. The library has over 10,000 volumes and other documents, film, video, and microform records of Navy and civilian undersea activity.

The Naval Undersea Museum was chartered by the Secretary of the

Navy in 1979 and was originally intended to be a repository and display center for papers and artifacts associated with undersea warfare (submarines, torpedoes, mines, etc.). In 1987, the museum's charter was expanded to include the entire spectrum of Navy undersea involvement and the focus changed to include diving, salvage, and related technology. This focus has increased and sharpened since the Navy — realizing the Naval Undersea Museum is the only Navy museum with diving



in its mission — has concentrated its effort to capture our diving heritage for posterity.

In 1980, the Naval Undersea Museum Foundation was formed to raise money for and to build and outfit the museum facility, since the Navy charter specified no Navy funding could be used for that purpose. Once the facility was built, the foundation would deed it to the Navy, which would then operate and maintain it. The foundation raised more than \$10 million and constructed a magnificent 68,000-square-foot building, which was turned over to the Navy in 1990. At that time, planned permanent exhibits were not complete, so the museum opened to the public as a preview center in

September 1991. Since then about 40 percent of the permanent exhibits have been completed and installed.

The museum is located just outside the main gate of the Naval Undersea Warfare Center Division Keyport (at one time, Naval Torpedo Station, Keyport) on the shores of the inlet of Puget Sound, about fifteen miles west of Seattle. Admission is free and the museum is open from 10 a.m. until 4 p.m. seven days a week (closed Christmas, Thanksgiving, and New Years Day, and Tuesdays from October through May). Although it is located in semi-rural Kitsap County, over 65,000 enthusiastic people visited the museum in 1995.

For more information write to the museum at 610 Dowell St., Keyport, WA 98345; call (360) 396-4148; or use the Internet (<http://www.tscnet.com/tour/museum/index.htm>).

Completion of exhibits, including key modules on the history of diving and salvage, depends on the foundation raising \$1.7 million. In order to contribute to this goal, the foundation offers sustaining memberships for a donation of at least \$25.00. Contributions are tax deductible and go toward completing and enhancing the museum's exhibits. Sustaining members receive a quarterly newsletter, discounts at the museum store, and invitations to special events. Readers who are interested in becoming sustaining members should contact the foundation at Naval Undersea Museum Foundation, P.O. Box 408, Keyport, WA 98345, or phone (360) 697-1129. ■

CAPT Ralph L. Enos, USN (Ret.) is Vice President of the Naval Undersea Museum Foundation.

TRF Bangor Conducts Two Propeller Changeouts

The System Does Work

by Frank Buski

Recently the Diving Locker of Trident Refit Facility (TRF) Bangor, WA conducted two waterborne propeller changeouts in the early January-February time frame. One was on the USS *California* (CGN 36) at Puget Sound Naval Shipyard and the other was on the USS *Michigan* (SSBN 727) at TRF Bangor.

Once tasked with the USS *California* mission, Master Diver ENCS (MDV) Dan R. Briggs, knowing that he had limited waterborne propeller changeout expertise in his locker, knew that he had his work cut out for him. NAVSEA 00C5 (Underwater



*Final preparations being made to the USS *California*'s new propeller before sending it to the divers.*

Ship Husbandry) was contacted for drawings and a procedure for accomplishing this task waterborne. Once satisfied that he was now on the right track, things started to come together. Knowing that NAVSEA 00C5 would support the task

with all required tools and equipment, and with the help and expertise of Mr. Robert Senyohl (Code 451 TRF Bangor), all required material support was either on order or in hand.

Several days before the job began, the NAVSEA 00C5 on-scene technical representative conducted training for all concerned with actual hands-on exercises. Much time was spent on familiarization with various tools and pieces of equipment. Everyone now seemed eager to get started with the task at hand. With the controlled work package (CWP) in hand, things got started on the USS *California*.

With the NAVSEA procedure incorporated into the CWP, Master Diver Briggs completed this waterborne propeller changeout without any deviation to the CWP. Much thought went into the entire planning evolution at TRF Bangor. Professionalism did prevail on the part of all concerned. Much credit is due the



Divers installing gland ring studs on the new propeller hub.

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PROPELLERS (from page 4)

divers who in fact made it all work. *A job well done.*

Five days later, the second waterborne propeller changeout began on the Trident submarine USS *Michigan* at TRF Bangor. This was a first for TRF Bangor. Again incorporating the NAVSEA procedure into the CWP, with a minimum of training, work commenced on the USS *Michigan*. Now faced with adverse freezing weather conditions on the *Hood Canal*, this dedicated group of divers never stopped or gave up. Utilizing SIMA Everett, WA divers to keep things moving, again much pride and professionalism prevailed on the part of both Dive Lockers. *Another job well done.*

Planning played a large part in the success of both jobs from topside rigging to the various machine shops involved the CWP, plus the very high standards of professionalism of Master Diver Briggs. Enough cannot be said about the eagerness of all diving and support personnel of both TRF Bangor and SIMA Everett. It was a pleasure to be associated with this fine group of professionals.

The point being stressed here is that the system does work. Master Diver Briggs was assigned a task. Knowing that he would need more assets than he could furnish, he took the time to research all aspects. After identifying all requirements and requesting same through the proper channels, things fell into place. No stone was left unturned prior to the start of the job. Life can be made easier if you as a leader identify and use all the tools available to you. The system is there for the taking — *use it!*

Under the direction of CWO-3 Eric S. Beauchamp, SIMA Everett, eight divers and four support person-

nel participated along with fifteen divers and six support personnel under the direction of Master Diver Briggs of TRF Bangor. My congratulations to a group of professionals that acted in every manner as professionals.

Remember — the system does work and it's yours for the asking. Use it — it does work. ■

HTCM (MDV) Frank Buski USN (Ret.) serves as NAVSEA 00C51 in the Underwater Ship Husbandry Division.

On Being Exchanged ...

by LCDR A. L. Blakey

The arrival at Dulles International Airport one hot afternoon last September of three very lively little boys, two exhausted parents, and three British Airways cardboard biplanes in various stages of destruction/repair signalled the start of the Blakey family's exchange appointment to the U.S. Navy. Astonishingly, the entire family survived the wait to clear immigration (though the same could not be said for one upper wing and two undercarriages of the aforementioned biplanes). The sight of my predecessor waiting to convey us to the hotel suppressed the natural urge to make infanticide one's first act on American soil and we duly piled into the ancient Oldsmobile station wagon (item 91 on the hand-over list) to enjoy our first sight of America.

On arrival at the hotel, my wife and children, displaying an intolerable lack of stamina, promptly went to sleep, leaving one to maintain a lone Brit presence at the bar. The aim, of course, was to wait to a sensible hour before retiring, get a good night's sleep, and overcome all this jet lag nonsense in one go. A good plan, and one

which worked extremely well until 0300, when one cardboard upper wing and two undercarriages were slid under my nose to a chorus of "Daddy fix it!" So to those of you I met during my hand-over and now seem to have difficulty in remembering — mental blackouts following acts of extreme violence are quite common.

It has now been some four months since we have arrived and this is an ideal time to reflect on the activities both professional and personal during that period.

Professionally, the job is developing into a very rewarding appointment. In the Royal Navy, the MCD specialization covers the disciplines of Mine Warfare, EOD, and Diving. Previously, I was mainly involved with Mine Warfare, therefore it is particularly enjoyable to work within the Diving discipline this time. As a project manager for the UWSH section of NAVSEA, I expect to participate in the full range of waterborne repairs during the forthcoming 2½ to 3 years, though I shall be primarily responsible for repairs to GRP hulls and ICCP systems. I know that the experience I shall gain will both benefit and satisfy me professionally and I hope will be of good use back home in UK. In return I look for-

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Commercial Diving

There is a Difference

by Ken Wallace

A few weeks ago I was approached to write an article for FACEPLATE on the differences between Navy and civilian divers. As a Navy diver who retired and then embarked on a second career as a "civvie" in the civilian diving industry with Taylor Diving & Salvage, it was presumed that I would recognize these differences, if indeed any existed.

The Navy Diver

We can start by looking at the importance the Navy places on its divers. Diving is considered an alternate skill in a military career, secondary to a chosen occupation or rating. In some instances a Navy diver seldom makes a dive except to retain his diver qualification while working full time in his skilled rating. His "qual dive" adds nothing to his diving skills. It only promotes his ability to accept pressure and to relate sea stories of his diving school experiences while partaking of the brew in the local pub.

Unfortunately, this individual can be transferred to a new duty station requiring diving skills that he has not been subject to in the past; he is nevertheless expected to perform in a experienced manner. Because of the nature of working underwater, blind to light, he involuntarily gives one hand to the job and one hand to himself. (One cannot resist self-preservation in a hostile environment!) As his water time increases he may feel more comfortable, relax a little

more, and donate a little more of himself to the job at hand. As his time underwater increases, he adapts to this foreign environment and a sense of euphoria displaces anxiety. About the same time a strange thing occurs — his awareness of the diving patch on his arm lessens, his diving exploits are less discussed in his favorite pub, and the many operations that he must perform to keep him from harm's way and still be productive are now entwined and not thought of as individual tasks.

The Civilian Diver

In many instances the civilian diver is an ex-Navy diver. As the law exists today, the civilian diver must have formal schooling, which has lead to the growth of civilian diving schools. The qualified diver in this atmosphere works in lesser jobs such as tender and rack operator for a period of time to initiate himself and prepare himself to be a diver. Diving is his sole career. His qualifications and experience are his hallmark.

The civilian diver's success is wholly dependent on his performance and his reputation in every area of diving. He is only as good as his last dive. To be a successful diver and be courted by diving companies, he must also be respected by his peers. He knows his retirement is based on his ability to be called out on jobs. No jobs + no pay = no retirement.

A civilian diver must be completely void of infatuation. It is serious and it is deadly. As in all diving, commercial, military, or scuba swimming, there is no room for mistakes. A civilian diver does not receive the supervision a Navy diver receives. In most civilian diving, the diver is his own supervisor and boss.

The Navy diver spends a good part of his life away from home. His civilian counterpart must also expect to be far away from home and at sea. The civilian diver gets no medals, receives no letters of commendation, and receives no extra pay for being qualified. His reward is monetary and he does well when he is employed.

Are there any major differences between Navy divers and civilian divers? I think not. Most Navy divers who extend their careers into commercial diving appear to do well. Ex-Navy divers do particularly well in supervisory positions. This can be credited to their excellent formal schooling and training.

Civilian divers, however, get more water time. I know of one saturation unit that exceeded one year under pressure and never returned to the surface during that time. Divers were rotated about every 30 days. Each rotation consisted of two or three divers from a total of six. Keeping half of the divers in saturation kept the continuity of the job intact.

Water time is the greatest difference between the two. ■

Ken Wallace started diving in 1941 in a family company. He served in the U.S. Navy from 1943 to 1967 and was designated Master Diver in 1960. One of his major assignments was Master Diver at the Navy Experimental Diving Unit from 1962 to 1967. After retiring from the Navy he was employed by Taylor Diving & Salvage in New Orleans as a diving supervisor. He succeeded Mark Banjavich as president of the company in 1973 and remained at that position until his retirement in 1983. (Editors Note: In the early 1970s, Taylor Diving & Salvage was one of the major diving companies in the world and the pioneer for oil patch saturation diving.)

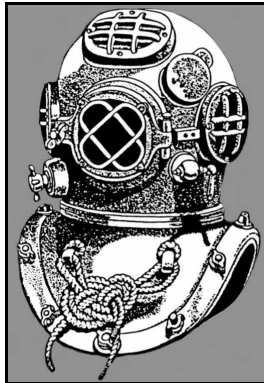
One recent afternoon I ran across a stack of the original FACEPLATE magazines here at the office. Recalling that some of the articles had been pretty interesting, I decided to take a few minutes and sneak a peek at some of them. The first one I picked up was the Winter 1981 edition, and being a Master Diver, I naturally turned to "The Old Master" article. I guess I was trying to see who had written the article, and if I knew him. Well, the article did not say who the author was, but the contents of it made me stop and think. I decided that with only the updating of a couple of phone numbers, that this article was still true, and that I would have it published in the next FACEPLATE. So here it is!

BMCM (SW/MDV) Gary M. Chancellor

The OLD MASTER

Going by the Book

Is the Diving Manual Sacred?



The *U.S. Navy Diving Manual* ... Is it the diver's bible or is it merely a manual of guidelines for Navy divers?

The *U.S. Navy Diving Manual* is a comprehensive collection of information pertinent to the U.S. Navy diving program. The Diving Manual addresses such varied subjects as diving history, diving medicine, descriptions of contemporary diving system hardware, and decompression and hyperbaric treatment procedures, to name but a few. It becomes apparent that certain subjects are provided to the reader more for in-

terest's sake or for guidance, while others are intended as doctrine allowing no latitude for deviation. Navy divers must, for instance, strictly comply with certain portions of the Navy Diving Manual, such as the various decompression tables.

It should become obvious to the reader that the degree to which the Diving Manual is implemented at the local level depends upon one's interpretation of its contents. Coincidentally, as this is an official publication receiving diverse and unregulated distribution, changes and additions can be effected only on a

periodic basis determined by economics. Consequently, contradictions to current Navy Diving policy are occasionally encountered which may require specific interpretation and resolution by the on-scene master diver or diving supervisor based upon his previous diving experience. Therefore, the answer to the original question is that the Diving Manual is, in fact, both the diver's bible and a guide. We Navy divers are often required to apply common sense to determine which is rule and which is to be treated as only useful information.

In any publication as comprehensive as our Diving Manual, covering such an ever-evolving and technical field as diving, it is virtually impossible to keep it up-to-date and free from error. If anyone discovers a mistake or is in doubt about the interpretation of any portion, he should contact the Supervisor of Diving (AUTOVON 327-2766; commercial (703-607-2766) or the Navy Experimental Diving Unit (AUTOVON 436-4351; Commercial (904) 230-3100). All proposed changes and/or revisions to the Diving Manual or Navy Experimental Diving Unit and the U.S. Navy Bureau of Medicine (as applicable) and are submitted to the Supervisor of Diving for final approval, publication and Fleet-wide distribution.

In summary, the *U.S. Navy Diving Manual* may not be perfect; however, if you use it properly and intelligently, you'll never be wrong.

EXCHANGED (from page 9)

ward to contributing to the NAV-SEA team and hope that my previous experience will be of benefit to my host nation.

In any job the greatest pleasure is usually to be derived from working with the different people that you meet and to date this has been the case. I have been impressed by the enthusiastic, friendly, and professional manner of the teams that I have worked with, though particular mention must go to the 2C course at Panama City during my MK 17 and MK 21 familiarization training. With the natural generosity that is characteristic of the American people, they automatically ran slowly during PT so that the “old man” could keep up — I was most grateful.

Perhaps at this stage I should dispel a few myths/misunderstandings. One, whilst it is not a direct ex-

change, there really is an American officer serving as “Ops” on one of Her Majesty’s Hunt class MCMVs; hopefully this dispels the scurrilous rumor that the Brits swapped me for a bag of marbles. Secondly, unless you are female, damned attractive, and we are in a bar, I am not now nor ever have been a member of the House of Windsor. Third, I don’t care what I sound like — I am a Brit, not an Australian. Finally, on the tricky subject of etiquette, the proper way to make the acquaintance of a Brit Diving Officer is to approach him carrying two pints of beer using the phrase, “Have one on me, Boss.” These words and the accompanying action can be repeated as many times as necessary until over that awkward introductory period. Now you know.

As is always the case, the final words must go to the wife and children, in this case to my eldest son, Carl. Standing at the front door of

our rented home, swaddled in many multicolored layers of clothing as if auditioning for the part of Scarecrow in “Wizard of Oz — The Obese Years,” he surveyed the pristine first snow of the Blizzard of ‘96. He turned to me.

“Dad, you know I didn’t want to leave my friends and come to America?”

“Yes, son.”

“Don’t worry — America’s great!”

He turned forward and slowly fell face first with arms outstretched into the snow. I suppose it could be called a kind of healing process, like throwing three British Airways cardboard biplanes in the bin as soon as the kids weren’t looking. ■

LCDR Blakey, Royal Navy Exchange Officer (00C57), is currently serving in the Underwater Ship Husbandry Division.

DEPARTMENT OF THE NAVY
SEA 00C
NAVAL SEA SYSTEMS COMMAND
2531 JEFFERSON DAVIS HIGHWAY
ARLINGTON VA 22242-5160

Official Business