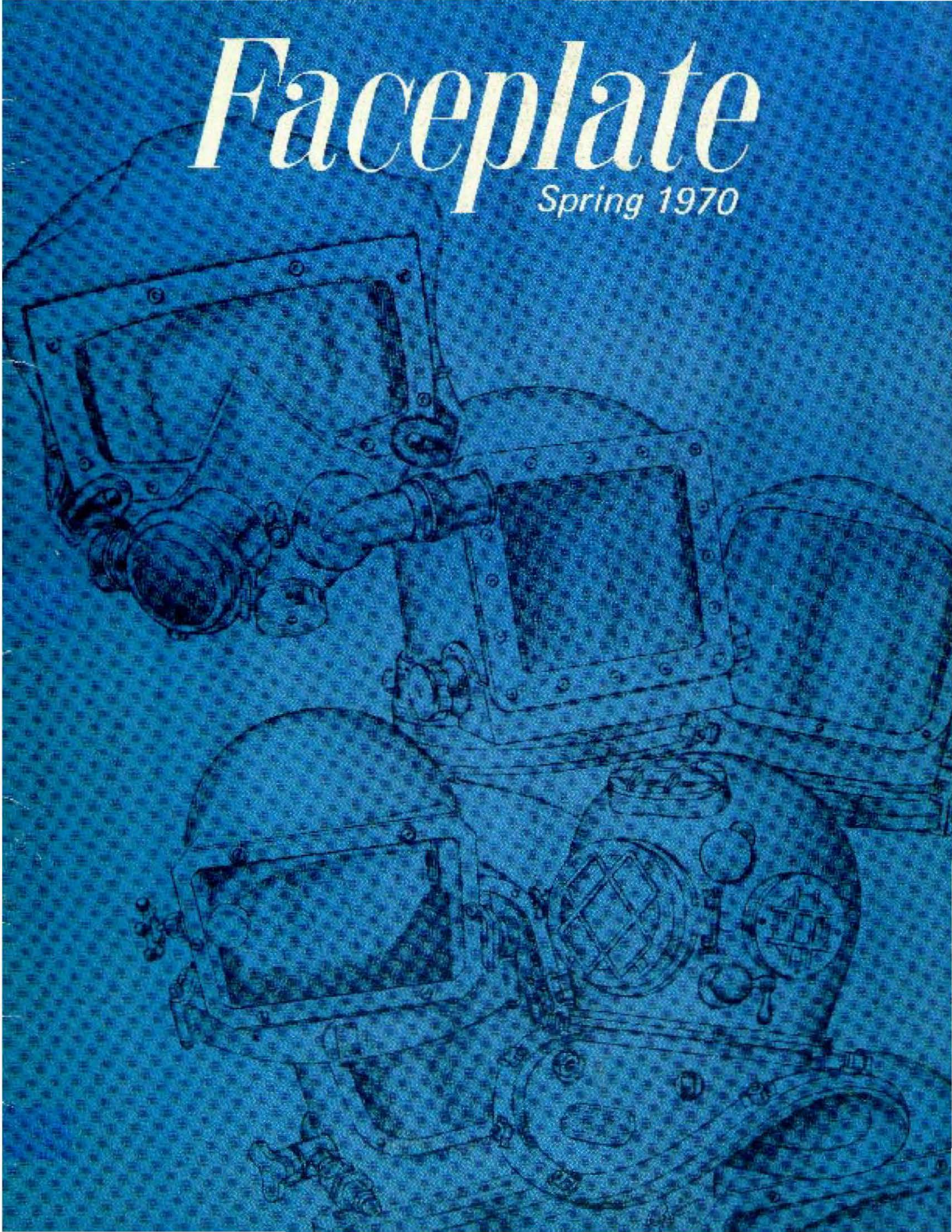
Faceplate

Spring 1970



The Office of the Supervisor of Diving is the central point of contact within the diving community for all diving activities. This office has, therefore, assumed the responsibility for publishing *FACEPLATE*.

As diving equipment, techniques, and theory continue to grow in scope and capability *FACEPLATE*, published quarterly, will bring you the latest technical information. We also will bring you news of diving people and articles that are of general interest to you, the Navy diver. With this issue the format of *FACEPLATE* has been expanded to provide this broader coverage in the field of Navy diving and to be of greater value to the entire diving community.

We welcome your letters and encourage the submission of material for articles that you feel might be of interest to Navy divers. Your ideas, experiences, and comments will be a vital part of this publication. Let us hear from you soon!

E.B. Mitchell, Capt, USN
Director of Diving, Salvage,
and Ocean Engineering

Faceplate

VOL. 1 NO. 1

FACEPLATE is published quarterly by the Supervisor of Diving to bring the latest and most informative news available to the Navy diving community. Articles are presented as information only, and should not be construed as regulations, orders, or directives. Discussions or illustrations of commercial products do not imply endorsement by the Supervisor of Diving or the U.S. Navy.

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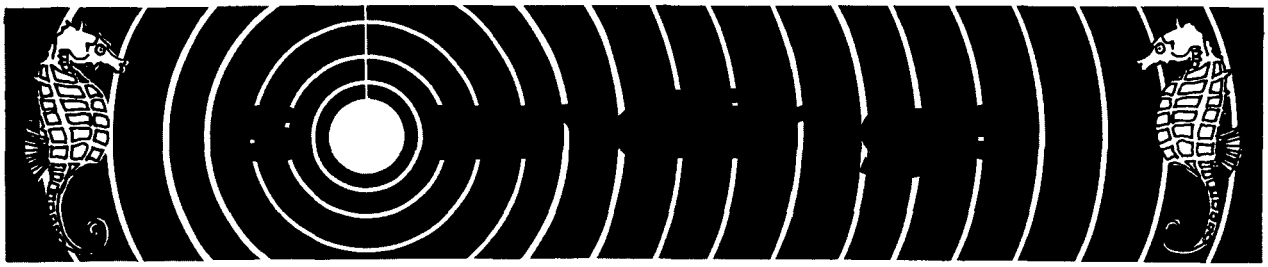


First Class Divers . . . preparing for advancement to Master Diver—are you familiar with the Naval Correspondence Course, "Principles of Navy Diving" (NAVPERS 10429)? This is an officer-enlisted correspondence course which is based upon the *U.S. Navy Diving Manual.*

The course, divided into twelve assignments, focuses on physiological problems, mental attitudes, the operation and maintenance of various types of deep-sea diving equipment, scuba gear, and the use of various breathing media. Also, attention is given to applicable safety procedures.

How can you get this course? Apply for it through your administrative command. Applications are then submitted to the Naval Correspondence Course Center at Scotia, New York.

Many applicants, who have requested the course, have received replies saying that the course could not be forwarded due to the lack of textbooks. Every command in the diving community must have a *Navy Diving Manual.* Therefore, along with your request for the course, include a statement which says, "Please forward the course without the textbooks, because one copy of the Manual is available at this command."

Many experienced divers who have been promoted to officer status, strongly recommend this course as a very valuable step toward higher goals.

"Equipment for the Working Diver" . . . a meeting to review and evaluate existing systems and designs of divers' equipment was held 24–25 February 1970 at Battelle Memorial Institute, Columbus, Ohio. This meeting, attended by leading members of the world-wide diving community and the leading manufacturers of diving equipment, was under the joint sponsorship of the U.S. Navy Supervisor of Diving, Battelle Memorial Institute, and Marine Technology Society, Committee on Man's Underwater Activities.

Navy Divers, your good reputation is spreading . . . recently the Secretary of the Navy, Mexico, Admiral Antonio Vazquez del Mercado, and members of his staff honored our Navy by visiting the Experimental Diving Unit. The Honorable Secretary received a presentation by Captain E.B. Mitchell, Director of Diving, Salvage and Ocean Engineering, followed by a tour of the facilities. Later, he was given a guided tour of the U.S. Navy Diving School by Executive Officer, LCDR W.E. O'Shell, who is now the Commanding Officer.

Captain Willard F. Searle, Jr., USN . . . was presented the Legion of Merit on February 24, 1970, for his outstanding service as the Navy's Supervisor of Salvage from September 1964 to May 1969. During that period, the citation reads, "He contributed more than any other individual since World War II to the high state of readiness which now exists in the Navy's salvage and diving organization."

Navy/Duke Dive . . .

. . . Paves the Way to Safe Exploring

". . . the most extensive biomedical testing ever performed on divers in the water at any depth," stated the Senior Medical Officer at EDU.

IN July 1969, the U.S. Navy, with the cooperation of Duke University, conducted a series of dives using the habitat at the Duke University Hyperbaric Medical Center. (The Hyperbaric Unit recently acquired refrigeration equipment to chill the water in its "wet-pot", making it the only pressure complex in this country with that capability.) The main purpose of this project was to evaluate new underwater breathing systems and new methods of keeping a diver warm.

The dive began at 9:12 AM. The chamber was pressurized at the equivalent pressure of 600 feet of sea water by 8:10 PM that evening. The basic compression rate was 5 feet per minute, with 2-hour stops at periodic intervals. During these stops, hearing studies were made of each of the divers.

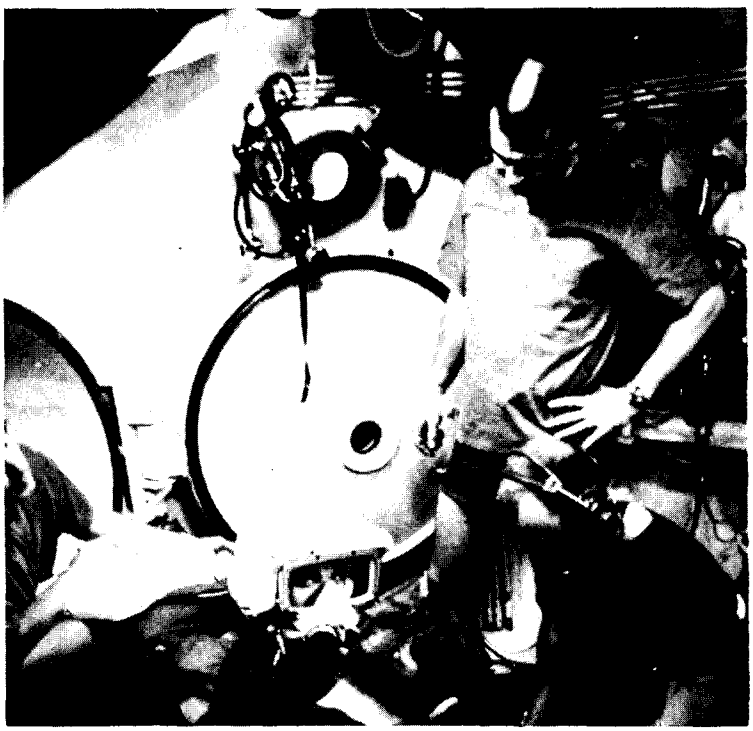
The first tests were warm water studies. Two divers each spent two one-hour periods in 90°F water. They tested both the MK IX semi-closed-circuit underwater breathing apparatus and the TITAN II open-circuit regulator while performing a heavy workload on the calibrated bicycle. Psychological tests were conducted to measure motor ability and their ability to reason. The results of those tests compared favorably with tests made in warm water under normal pressure before the start of the dive. Blood samples and exhaled gases were also collected from both divers for later analysis.

The wet-pot was then drained, refilled and chilled to 48°F. The next day EEG studies were made of each of the divers before the cold-water swim was made. A diver, wearing the combination APOLLO tubular underwear/Dunlop dry suit for thermal protection and the MK VIII semi-closed-circuit underwater breathing apparatus, spent about an hour in the 48°F water. The water entering the tubular underwear was at 110°F. His body temperature remained in the normal range. More audiometric studies were conducted that evening.

The following day four cold-water swims, each lasting about an hour, were made with the Dunlop suit/APOLLO undersuit combination and the TITAN II regulator. In each case, the diver performed a heavy workload on the calibrated bicycle. Body temperatures, which were constantly monitored from the surface, again remained in the normal range. For later analysis, exhaled gas was collected from each diver while he was performing work.

Captain Walter Mazzone, Senior Navy Officer in Charge of the Experiment, gives last-minute instructions to the divers. Left to right: Corbin Peterson, Duke; Chief Boatswain's Mate Allen Petrasek, EDU; Engineman First Class Allen Lyons, EDU; LT Edward Flynn, MC, EDU; Chief Mineman Paul Wells, DSSP; Chief Boatswain's Mate Murry Cato, EDU; CAPT Mazzone.

Chief Boatswain's Mate Petrasek about to enter the water. The helmet is the Kirby-Morgan Clam Shell.

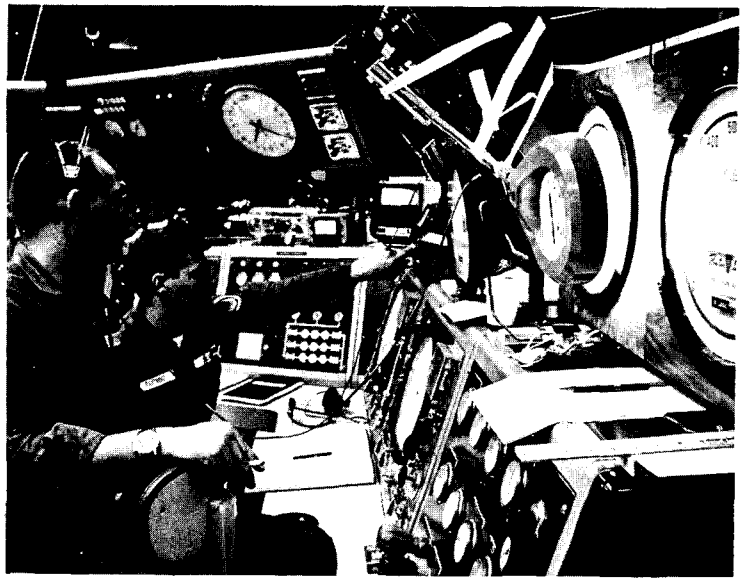


Another cold-water dive, wearing the combination APOLLO/Dunlop suit and the MK IX was made. In addition, two divers participated in cold-gas breathing studies while lying on beds in the warm chamber. This test was made to determine the physiological effects of breathing cold gas while the body is in an atmosphere at normal temperature.

Additional cold water dives tested the MK VIII and the MK IX. A "buddy-breathing system" on the MK VIII, designed to permit one diver to assist another in trouble, was tested and found to be successful. The divers wore heavy woolen underwear under the Dunlop dry suit on two of the dives, instead of the APOLLO underwear worn in all previous cold-water dives. They found that they were able to work for about 20 minutes before their hands and feet began to get cold; however, their body-core temperatures remained in the normal range.

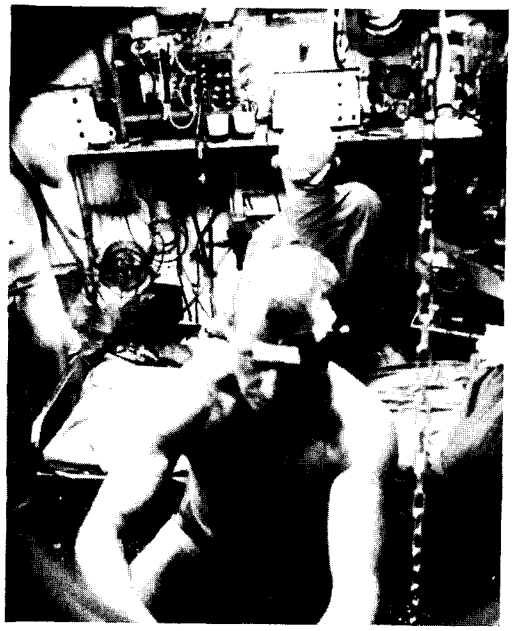
Psychological tests conducted after an hour's exposure to the cold showed an expected slight impairment in both motor ability and the ability to reason. This was partly due to the bulky clothing worn by the divers.

The subjects remained at the saturation depth for 6 days; decompression took 7 days. During this project much medical data, such as effects on hearing, physical response, and brain wave response, was collected. A report on the final analysis of the studies made during this dive will be published in the near future.



The Control Console at the Duke Hyperbaric Center. "The surface" kept a constant check on the divers—measuring temperature, heart rate and function, and respiration rate. All of this information was recorded for later analysis.

Worn under the Dunlop dry suit, the Apollo underwear—the same garment worn by our astronauts for cooling—carried 110°F water through the tubes to provide warmth for divers in 48°F water.



Divers being evaluated for brain wave responses.

Captain E.B. Mitchell, Director of Diving, Salvage and Ocean Engineering Projects (NAVSHIPS 00C) congratulating the divers upon their "return to the surface."

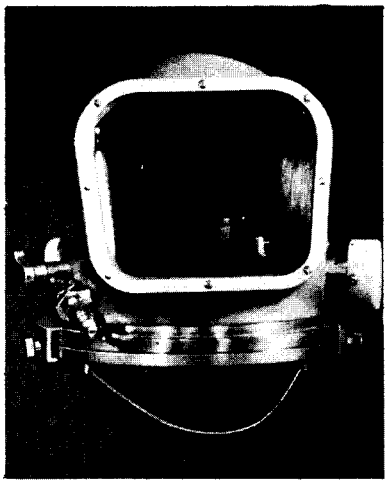
EDU Evaluates New Equipment

AS divers do more and more work both at shallow and deep depths, the deficiencies in the design of existing equipment become increasingly apparent. The Supervisor of Diving and the Experimental Diving Unit are giving special attention to the evaluation and the development of new equipment to increase the capabilities, safety, and comfort of the Navy diver. Equipment being evaluated includes both equipment developed commercially and that built in direct response to a Navy requirement.

The equipment featured in this article has recently undergone or is presently undergoing evaluation at EDU. It is not the intent of the article to indicate a preference for certain equipment over others, or to indicate that the equipment has been found by the Navy to meet the rigid qualification standards necessary for diving equipment. The data and illustrations are presented for information and interest purposes only so that you, the Navy diver, can keep abreast of what is being done in the design and evaluation of new diving equipment.

(Right) **The Kirby-Morgan KMB-8 Band Mask . . .** made by the Commercial Diving Division of U.S. Diver Co., is a fiberglass shell with a face seal and rubber hood. Open circuit breathing of either air or mixed gas is provided by either free flow or demand. The Kirby-Morgan Band Mask has been used in Harbor Clearance Unit One with the ADS-IV for more than two years and is in use for evaluation by several Navy activities. The Band Mask has been used satisfactorily at 750 feet at EDU.

(Left) **Kirby-Morgan VS-1 Venturi Recirculating Unit . . .** This unit was built for the Supervisor of Diving by Deep Water Development Corp. It features a modified Kirby-Morgan Band Mask, a venturi recirculator, and chest mounted carbon dioxide absorbent canister. The rig shown is one of two prototypes under evaluation at EDU.



(Left) **The David Clark Helmet . . .** a product of the David Clark Co., can be used as an air helmet or, with the addition of a venturi recirculator and canister in a back pack, as a semi-closed circuit mixed gas system. The helmet includes improved voice communications.

(Right) **The Kirby-Morgan Clam Shell Helmet . . .** like all Kirby-Morgan equipment, is manufactured by the Commercial Diving Division of the U.S. Diver Co. This Clam Shell, Model NW4-B, is primarily a military version for use with semi-closed circuit equipment. The two major components, the faceplate and the helmet, are constructed of fiberglass-filled polyester resin. They hinge apart at the neck to allow easy entry. The incoming and exhaust breathing gas from the recirculating system enters and exhausts through two large-diameter cans on the front of the helmet. One-way valves in the base of the cans restrict dead air space to the nasal mask and permit the flow of air in only one direction. (There is no common inhale/exhale passage.) The second-stage portion of the demand regulator is built into the intake system at the faceplate for emergency breathing. The helmet has been specifically adapted to the Mk VII, Mk IX, and Mk XI breathing apparatus.

(Right) **DESCO Helmet . . .** The Diving Equipment and Supply Co., Inc. (DESCO) has designed a helmet, the DESCO Helmet, which can be used with the wet or dry dress and is constructed of spun copper and brass castings. The faceplate is 3/4-inch acrylic, sealed to the hat with a solid neoprene gasket. A constant air flow supply is delivered through 1/4-inch tubing. This helmet has a special air distributor and muffler, which minimizes air noise and prevents window fogging. Also featured are improved communications and an open-circuit breathing system.

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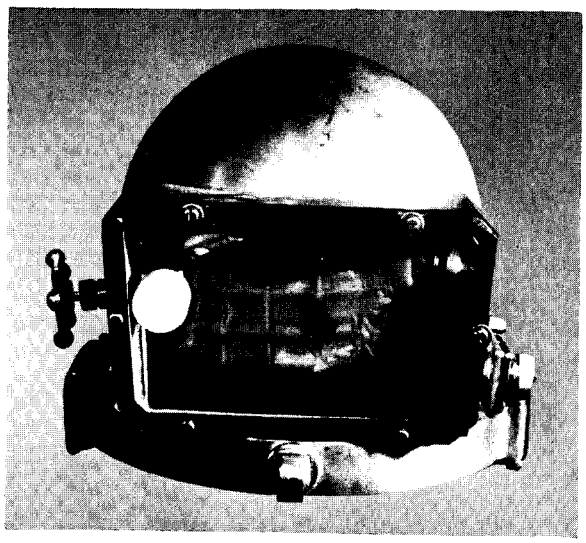


DEEP SUBMERGENCE SYSTEMS

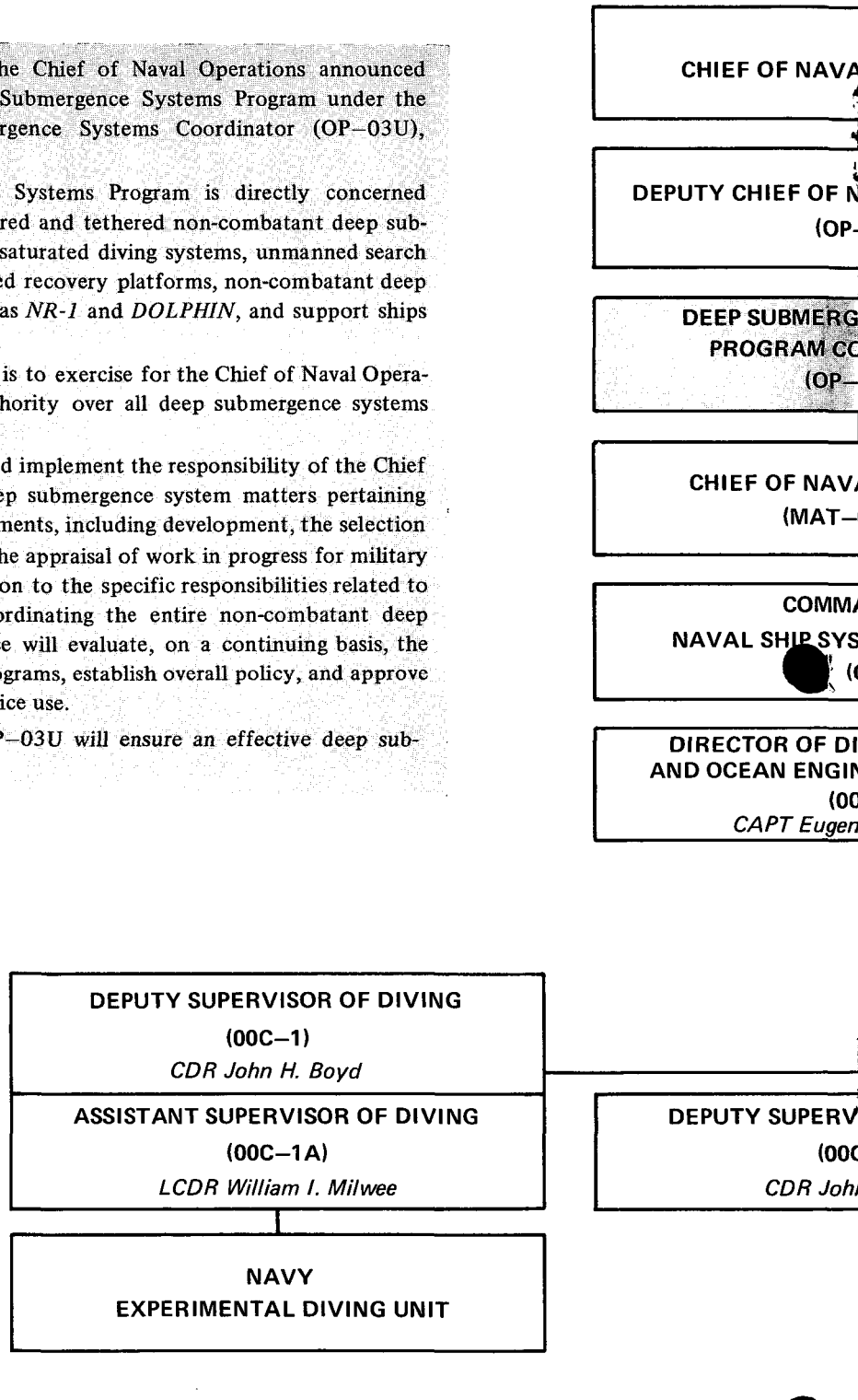
On 31 October 1969, the Chief of Naval Operations announced the establishment of a Deep Submergence Systems Program under the direction of a Deep Submergence Systems Coordinator (OP–03U), RADM M.H. Rindskopf.

The Deep Submergence Systems Program is directly concerned with all Navy manned untethered and tethered non-combatant deep submersibles, Helium-Oxygen and saturated diving systems, unmanned search instrument platforms, unmanned recovery platforms, non-combatant deep submergence submarines such as *NR-1* and *DOLPHIN*, and support ships for the preceding systems.

The mission of OP–03U is to exercise for the Chief of Naval Operations centralized directive authority over all deep submergence systems programs.

This office will act for and implement the responsibility of the Chief of Naval Operations in all deep submergence system matters pertaining to the determination of requirements, including development, the selection of work to be performed and the appraisal of work in progress for military worth and readiness. In addition to the specific responsibilities related to planning, monitoring and coordinating the entire non-combatant deep submergence efforts, this office will evaluate, on a continuing basis, the status of deep submergence programs, establish overall policy, and approve systems and equipment for service use.

The establishment of OP–03U will ensure an effective deep submergence systems effort.



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e B. Mitchell

ASSISTANT SUPERVISOR OF SALVAGE (ADMIRALTY)
(00C–L)
CDR Richard J. McCarthy

SUPERVISOR OF SALVAGE REPRESENTATIVE, WEST COAST
(00C–W)
LCDR Howard S. Placchi

SOR OF SALVAGE
–2)
n B. Orem

ASSISTANT FOR OCEAN ENGINEERING
(00C–3)
CDR John B. Orem (Acting)

Rear Admiral Maurice H. Rindskopf, a native of New York, graduated from the U.S. Naval Academy in 1938.

After a tour of duty on board the USS COLORADO (BB-45), RADM Rindskopf reported to the Submarine School, New London, in 1940 as a student. Upon graduation he served on board the USS R-4. Just prior to the start of World War II he reported to the USS DRUM (SS228) for duty in connection with the commissioning of this new construction submarine. Within a short period of time DRUM was deeply involved in hostilities in the Pacific. In June 1944, RADM Rindskopf assumed command of DRUM. He was awarded the Navy Cross for sinking three ships and damaging three others during his second patrol in command.

Upon detachment from DRUM in 1944, RADM Rindskopf served in several submarine staff billets, commanded several submarines, a submarine division, squadron, and flotilla, and the Submarine School. He also served in the Bureau of Ordnance in the office of the Chief of Naval Operations.

He has commanded surface units such as the USS HIGBEE (DDR-806) and the USS FULTON (AS-11).

In June 1967, he was selected for promotion to Rear Admiral and assigned duties as the Deputy Chief of Staff for Intelligence on the Staff of the Commander in Chief, Pacific.

In October 1969, he assumed the duties of the newly established Deep Submergence Coordinator in the Office of the Chief of Naval Operations.

In addition to the Navy Cross, RADM Rindskopf holds the Silver Star Medal, the Bronze Star Medal with Combat "V", the Navy Commendation Medal with Combat "V", and numerous campaign medals.

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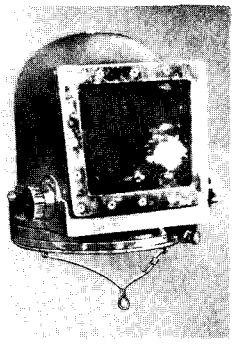
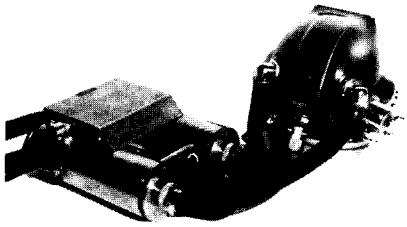
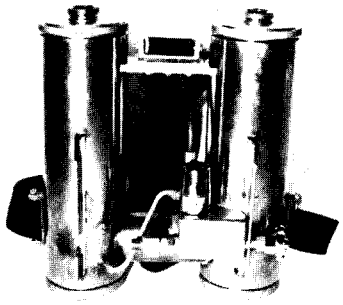


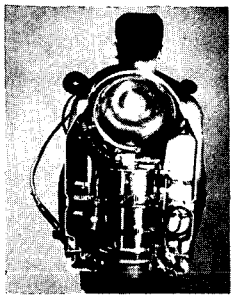
(Above) **The Advance Diving Equipment Co. Helmet . . .** is an open-circuit breathing system with a constant flow regulator, and is adaptable to shallow or deep water. Shown here, also, is the communication hat, the helmet having been removed from the neck ring. A mixed gas version is available. The air hat has been in use, under evaluation, by Harbor Clearance Units One and Two.

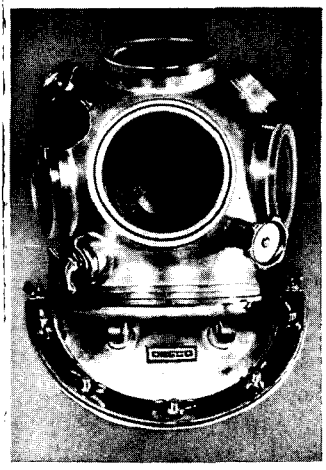


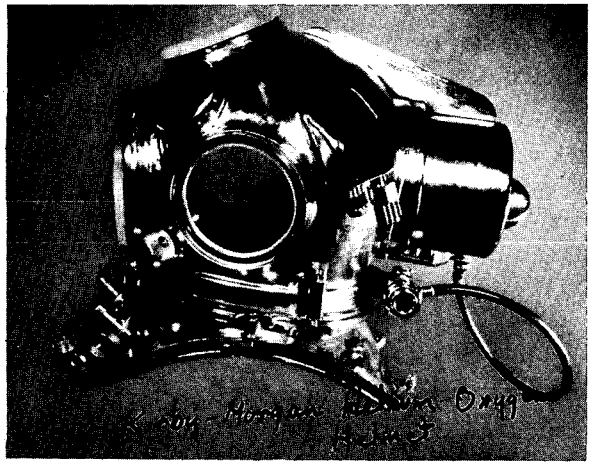


(Left) **The General Aquadyne Helmet . . .** manufactured by General Aquadyne, Inc., has an interchangeable neck ring, which makes it adaptable to a wet suit, a dry suit, or a constant volume dry suit. The General Aquadyne Helmet is constructed of reinforced polyester fiberglass, and features polycarbonate ports at the top and front. The frames of the ports are chrome-plated brass castings. This helmet also provides increased viewing, having front and top ports. The head exhaust is adjustable from one-half to two pounds pressure. The helmet is fitted with a 3/8-inch direct flow valve. All plumbing joints are silver soldered. The direct flow inlet to the helmet has a non-return valve attached to it. Ninety-five percent of the mixed gas is immediately returned to the recirculator. This is accomplished by the helmet's intake/exhaust ducts, which supply breathing gas across the faceplate. A special adhesive is used to bond the stainless steel helmet ring to the helmet. The neck ring and its components are also stainless steel. This helmet differs from similar types by its double cylindrical scrubber unit instead of a single flat unit. The double scrubber unit is shown with its cover removed.

(Right and immediately below) **Mark X Closed Circuit SCUBA . . .** The Mark X is a closed circuit mixed gas SCUBA produced by the General Electric Co. The Mark X has been successfully swum at depths from the surface to 1000 feet. The pictures immediately below show various views of the Mk X Mod 1. The Mark X uses special oxygen sensors to control the breathing gas mixture and maintain the desired oxygen partial pressure regardless of depth. The gauge with its control for high or low sensoring is shown in the diver's right hand and also in its normal position — secured to the diver's right shoulder strap. The gauge secured to the left wrist serves as a check against the high or low sensors and provides direct readout of the partial pressure of oxygen.







(Left) **The DESCO Helium-Oxygen Helmet . . .** is very similar to the Navy's Mk V Mod 1. The pictures at left show front and side views. The design of this helmet is based on a Japanese styled hat. It is about half the weight of the Mk V Mod 1 Air Helmet, and has a better canister design. Note that the control valves are on the hat instead of the chest. This lighter helmet is relatively easy to put on and permits greater freedom of movement on the surface.

(Right) **The DESCO Deep-Sea Dress . . .** is a design concept also based on a Japanese style. It looks somewhat like our Navy dress, but the fabric is more flexible and about half the weight. The soft foot covering of this suit makes climbing and walking easier. The color of this DESCO dress is orange.

The Flying Diver

(This article, written by LCDR Herman S. Kunz, appeared in the Winter 1969 issue of FATHOM, *published by the U.S. Naval Safety Center. It is reprinted here by permission of* FATHOM.)

WHEN was the last time you saw a deep-sea diver flying? . . . . without the aid of an *aircraft?* If you had been in the vicinity of San Clemente Island on Wednesday, February 8, 1967, you might have seen me airborne! On that particular day, while testing a large inflatable rubber salvage pontoon, I was sent on a short but rather spectacular flight.

We were to test the 25 ton general purpose collapsible salvage pontoon while demonstrating the feasibility of inflating it underwater using a hydrozene gas generator. A steel submarine salvage pontoon was to be flooded and used as the anchor.

On the morning of the eventful day the two pontoons were lowered to the bottom (76 feet) and the steel pontoon was flooded. The gas generator was lowered to approximately 45 feet and another diver and I prepared to dive. I questioned the gas generator engineer concerning the safety of the unit and the possibility of a chemical explosion.

He said that he considered the unit to be safe. This was reassuring, however, I instructed my diving partner to keep a safe distance from me but keep me in sight while I worked on the generator.

Once we reached the work site we inspected the rigging, opened the required valves and observed the inflation of the pontoon. When it was about one-third inflated the heat from the generator caused the rubber hose to give way at the generator outlet fitting. I immediately secured the unit and we went topside while the hose was being repaired. About an hour later the repairs were completed and my partner and I went back down. I restarted the generator and stayed well back to watch the rubber pontoon inflate. After about 15 minutes, small leaks developed across the top seam of the pontoon. I tightened the closure clips with a crescent wrench and that solved the problem. One of the clips was cracked so I made a mental note not to tighten it any more. We then went down to examine the steel pontoon's position. When we came back up we noticed that the rubber pontoon was leaking across the top again. I again tightened the clips with the exception of the cracked one and most of the leaking stopped. We then noticed a milky colored liquid seeping out from the opening at the bottom of the rubber pontoon. This must have been ammonia created by the hydrozene gas being exposed to sea water. The pontoon appeared practically full when my diving partner nudged me and pointed to the top. I again went to work. However, this time tightening the clips had little effect on the leaking. The bolts were already tight.

I was about to give up when suddenly the pontoon exploded. I was blown vertically through the water. My mask, wrist watch, one fin and a bootie were stripped from me but I fortunately retained my tanks and mouthpiece. When I broke the surface of the water the sunlight hit my eyes, momentarily blinding me. Instinctively I covered my face and underwent the odd and very unpleasant sensation of realizing that I was in the air but having no idea whether I was going up or coming down. I felt as though I was still being blown through the air.

What goes up must come down, so I doubled up into a ball with my knees on my chest and hit the water face first. Upon re-entering the water, a considerable amount of ammonia shot up my nostrils and down my throat. I must have submerged 10 feet before I started swimming toward the surface. I was honestly amazed at still being alive. After reaching the surface I could not locate my partner. I told the deck personnel to get another diver ready but before they could move, he surfaced. He had been off to the side of the pontoon when it exploded and although he didn't receive the full impact of the explosion he was blown horizontally through the water for a considerable distance.

In reconstructing what happened we determined that we had been approximately 35 feet below the surface when the explosion occurred. After recovering from the shock my partner swam directly to the surface while in the meantime I was blown approximately 35 feet through the water and 15 to 20 feet into the air, fell back underwater 5 to 10 feet and still reached the surface *before he did!*

Once onboard the barge, I lay face down in a spread eagle position to catch my breath. The men on the barge were attempting to assist me and kept trying to turn me over. I told them that I was OK but during the time I was onboard, I had been "snorting" rather violently. The doctor's initial diagnosis was that I had an air embolism. Actually it was only my attempt to blow the ammonia water from my nasal passages. But to be on the safe side, since I had come from below so rapidly, he put me into the decompression chamber for a half-hour treatment. "This precaution may not help, but it certainly can't hurt anything," he said.

The only apparent signs of injury that I incurred were several scratches on my right hand, a cut under my chin and a bloodshot right eye.

On the plane back to Long Beach, the realization of how fortunate I had been dawned on me. In all probability my lungs were not ruptured because I was facing the pontoon when it blew. The explosive force struck me in the solar plexis and knocked the "wind" out of me. My lungs being void of air would explain why I did not suffer an air embolism.

The sensation of a lengthy "flight" I experienced while in the air was borne out by several eye witnesses who said I came out of the sea on top of a gigantic column of water. It was reported to look reminiscent of the classic cartoon sequence showing a character astride a stream of water for a second or two after the water is cut off, then dropping back to earth. *My* descent was somewhat different. I was on top the water column for a few seconds then arched out of the column head first into the drink. The witnesses that saw what happened were about 50 feet away at the time of the explosion. The people nearer the scene heard the explosion, saw the column of water and turned to beat a hasty retreat.

I was fortunate that I had a nearly perfect vertical trajectory. Had I angled off to the side I could have come up under or gone back down on top of the salvage ship, the crane, the barge or one of the several steel spherical buoys near by.

This experience taught me many things. I know for instance why the older fellows don't play football. They may play as well as younger men but afterwards they hurt longer. As fortunate as I was to survive, I had numerous aches and pains for many days to remind me that I was still alive.

From a safety standpoint, this accident taught me the importance of pre-testing equipment prior to personnel exposure. A field test is a poor time to learn that a component doesn't work properly. Ironically the gas generator was the only equipment that I was concerned about and it functioned perfectly. But the inflatable pontoon that I assumed had been adequately tested was the cause of the accident.

UNREPORTED DIVING FATALITIES

It has come to the attention of the Supervisor of Diving that some diving accidents or fatalities handled at Navy chambers *have not been reported on the diving accident report form, NAVMED 6420/1.* Six such unreported accidents were recently discovered from information supplied through Judge Advocate General (JAG) investigation reports. These accidents, all fatal, occurred during the period December 1968 to December 1969.

Three of these accidents involved divers qualified by the Navy (two military and one civilian) who were participating in military operations. The other three divers had been trained elsewhere; each met his end while sports diving. However, *all were taken to Navy chambers, but none were officially reported on NAVMED 6420/1.* It is quite possible that other fatal and non-fatal diving accidents have not been properly reported. All should have been.

Information for those responsible for reporting diving accidents is as follows:

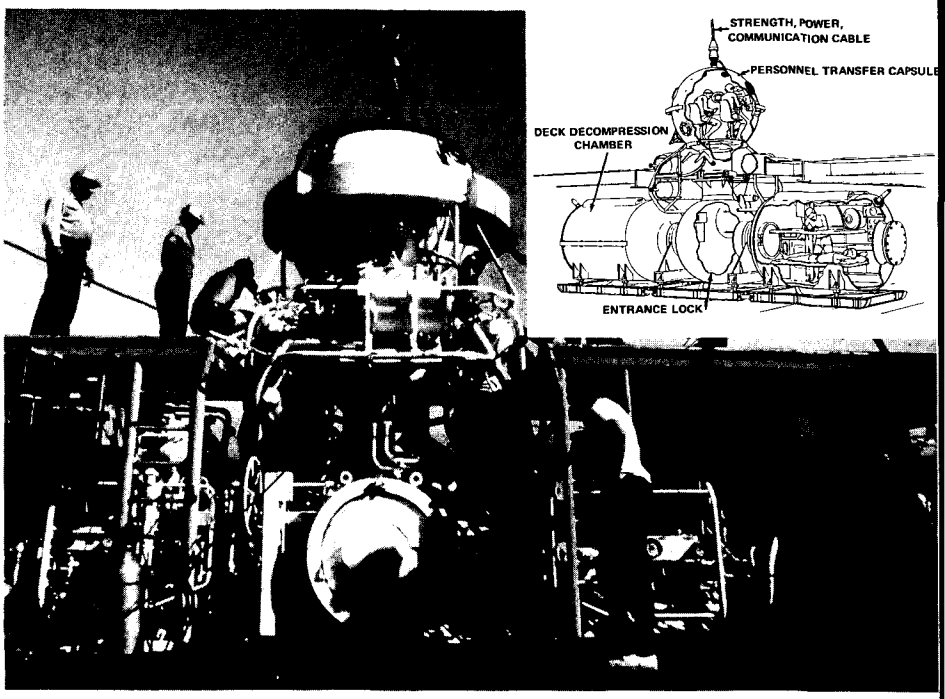
- Judge Advocate General investigation reports are not a substitute for NAVMED 6420/1, and are not routinely sent to or requested by those who analyze diving accidents.

- All diving accidents, whether fatal or not, which are handled at Navy chamber facilities must be reported promptly on NAVMED 6420/1. This includes civilian and military divers, whether qualified by the Navy or not. It also includes sports divers, both military and civilian.

It is only through prompt and thorough reporting that diving accidents can be analyzed, and corrective measures instituted.

(Full reports of the accidents mentioned above are presently being prepared. When made available, complete details will be given in FACEPLATE.—Ed.)

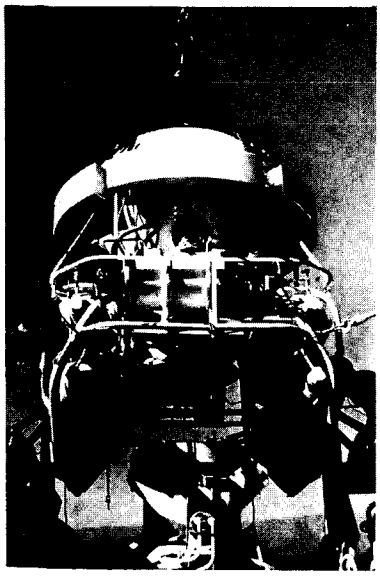
MARK I DDS EVALUATION CONTINUES . .



THE Mark I Deep Dive System extends the Navy's operational diving from the present limit of 300 feet to 850 feet. The Mark I DDS was accepted from its builder in February 1969 and transferred to Port Hueneme, California, for a period of contractor testing by Ocean Systems, Inc.

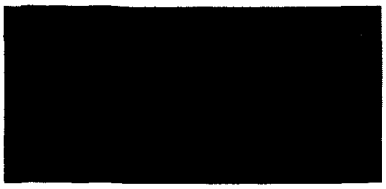
In July, the Navy Deep Dive Team, under Lt. Larry Bussey, took over the system. Starting slowly with shallow dives, the team worked down to 450 feet; numerous dives have been made at this depth. Dry saturation dives have been conducted at 300 feet and 850 feet.

After an operational evaluation is conducted this summer, the Mark I DDS will be placed aboard a specially modified barge and transferred to Harbor Clearance Unit TWO at Norfolk.



The Personnel Transfer Capsule (PTC) and Entrance Lock (EL) mate to allow transfer under pressure to the Deck Decompression Chambers. Here the PTC and EL separate prior to "going over the side."

The PTC's only link with the surface is the Strength, Power, Communication Cable. This special cable contains conductors for power supply to the PTC, diver monitoring, and communications. The divers are tethered to the PTC. One diver remains inside to monitor operations.



Arctic Greetings

IN THE land of ice, snow, polar bears, and Eskimos, our Arctic diving and demolition team, supporting the 1969 Arctic Sea Lift, has been carrying out short and simple orders: ". . . Use whatever safe means available to ensure clear landing beaches and provide diving repair services to the ships involved in the operation." (As a note of interest, whenever we were to dive, we always visited the local chief to make arrangements for no hunting that day! Have you ever thought how closely you resemble a seal when wearing a wet suit and sitting on the ice or with your head out of the water?!)

Three beach landings were cleared by using explosives. The Clyde River project proved to be the most interesting. The team worked throughout the night and used almost two tons of explosives (shots ranged from 50 to 350 pounds each) to blast through rock shallow sandbars. The completely new channel was wide and deep enough to facilitate two landing barges. (The Eskimo children were great! They sat up all night and watched us dive, and cheered their lungs out when we cranked off the shots.) Considering the fact that we had arrived at night and completed the job prior to time for work in the morning, the team was able to retire knowing that they had completed a darn good task.

A second very interesting job was when the team pitched in and assisted Repulse Bay in extending their airstrip 800 feet. Considering men, equipment, and weather, the projected plan was for completion in July 1970. To make a long story short, divers and explosives went to work and did enough damage to rock and frostline to complete the job by the end of September 1969.

Blasting heavy ice is quite an experience! We used, as a rule of thumb, three pounds of explosives per cubic yard of ice. The type of explosive we had on hand was CIL 60/40 in 5.5 pound sticks (3" x 16"). This proved satisfactory in all ice, rock, and sand.

So now with everyone on the team having joined the ranks of divers who have dived in the icy waters north of the Arctic Circle and on or near the North Pole, we can say, "It was not bad!" When one considers the number of men, ships, equipment, and supplies that are coordinated to get through the elements of sea, ice, wind and cold, a man cannot help but be impressed and proud to be part of such an operation.

LT H.S. Nuquist
EOD/Diving Exchange Officer
Canadian Diving Forces East
HMCS Granby, FMO Halifax,
Nova Scotia

Aksam yemegi!

DURING a recent deployment to the Mediterranean, the crew of the *USS PENGUIN (ASR-12)* engaged in a joint ASR exercise with the Turkish Navy's *TCS KURTARAN* at Marmaris, Turkey.

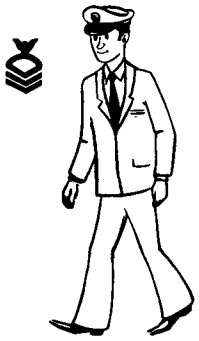
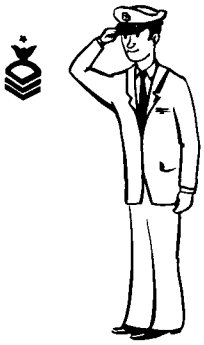
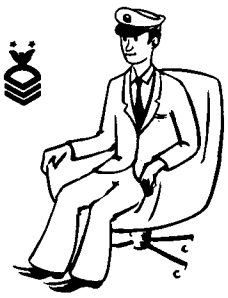
PENGUIN had the opportunity to observe the *KURTARAN* crew display their fine seamanship in laying a four point moor. This was done in a smart and timely manner despite the disadvantages of old equipment and the liberal use of "Norwegian Steam." A four pointer was layed by *PENGUIN*, during which mixed gas diving was demonstrated, since the Turks' limited funds do not allow them to use HeO_2 for training purposes. In addition, *PENGUIN*'s Master Diver, Ira C. Salyers, passed on some of the latest information on the newer decompression tables, and *PENGUIN* assisted the *KURTARAN* with some of their engineering problems.

On the weekend following operations, both crews enjoyed a beer bust and picnic. Commander Yalcin Erguneyt, the liaison officer from the Turkish Diving School at Istanbul, and LT C.K. Michele of *PENGUIN* led a team of U.S. and Turkish divers on a skin diving expedition in the Bay of Marmaris.

BMCS (DV) Sam Novello, on duty with *JUSMAGG* at Istanbul, very ably acted as interpreter and host for the *PENGUIN* and cleared up many points for both Navies, although some of the Turks had an excellent facility for English.

The Turks proved to be excellent hosts and extremely good sports. An enjoyable time was had by all and close-friend ships resulted from the endeavors.

LCDR W.J. Mullaly
Commanding Officer
USS PENGUIN (ASR-12)

IS ADVANCEMENT YOUR "HANG-UP"? . . . you already know that, as a diver, you must follow the regular path of advancement for your particular rate. For example, if you're a Boatswain's Mate Second Class with a diver qualification (BM2[DV]), to advance you must take the rate advancement exam (February or August) for BM1.

BUT WHAT DO YOU NEED TO KNOW TO QUALIFY FOR A HIGHER RATE? . . . with some "checking around" you've learned that there are many, many books to "bone-up" on! By this time, you're probably suffering from that "forget it" feeling. If so, you need to know what's available that will give you the information you need.

TRAINING PUBLICATIONS FOR ADVANCEMENT –NAVPERS 10052R, dated March 1970 . . . is one of the best ways to begin to prepare yourself. This annual publication contains a complete listing of all the rates and ratings in the Navy, along with all of the sources (by title, chapter, sections, and even page numbers) from which examination questions are made up for each rate.

WHERE CAN YOU GET THIS PUBLICATION? . . . ask your Training Officer, Educational Services Officer, or request a copy through the Naval Supply System. (The publication is listed in the stock catalogue.)

DON'T STOP HERE, THOUGH! . . . THE "RATING QUALIFICATION AND BIBLIOGRAPHY SHEET" is another way to prepare yourself! . . . When examinations are sent to each command, the Naval Examining Center also forwards a "sheet" for each rate exam. Each sheet gives the detailed qualifications necessary for advancement in a rating, and lists chapters, sections or page numbers of various publications from which the examination questions are taken! (Even though the "sheets" are mailed only once each year—with the February exams—they are also applicable to the August exams.)

Normally, the "sheets" are received by your Training Officer well in advance of the February exam. This gives you plenty of time to "bone-up" in your areas of greatest need.

WITH THIS KIND OF INFORMATION . . . you can direct your study efforts to the specific areas that apply to your rate examination. You will be better prepared for February or August than ever before. And most importantly, your chance for advancement will be greatly improved!

Correction

On page 13 of the Spring issue of *FACEPLATE*, the illustration described as a side view of the DESCO Helium-Oxygen Helmet is, in fact, a side view of a Kirby-Morgan Helium-Oxygen Helmet. The DESCO helmet is shown below – *Ed.*