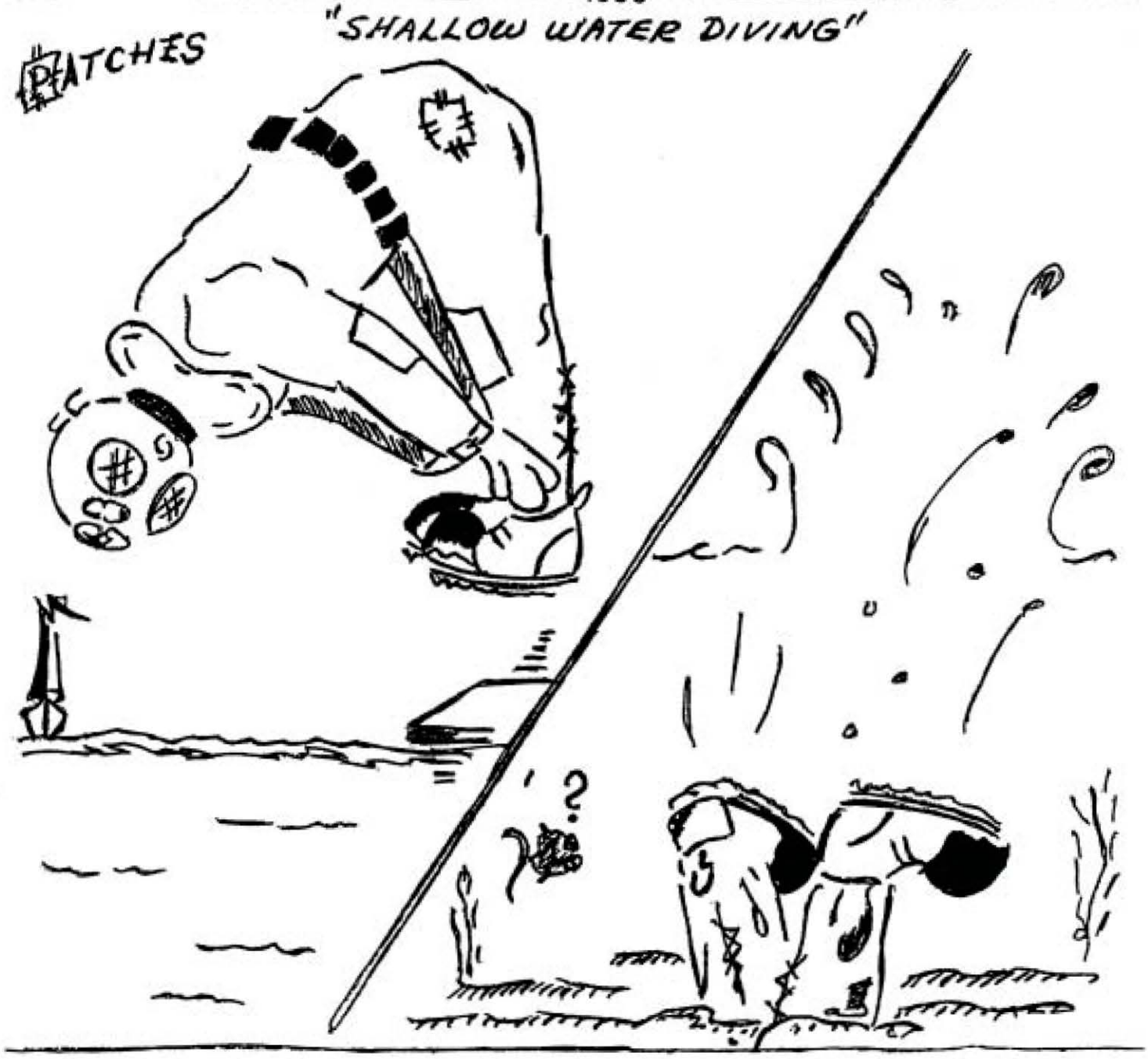
The FACEPLATE

SEP 1956



EXPERIMENTAL DIVING UNIT and DEEP SEA DIVING SCHOOL

U. S. Navy Diving Manual. CDR. des GRANGES

Apologies to those who came in from UDUs, EODUs, Service and Submarine Forces, and Underwater Swimmers and Ship's Salvage Schools to improve the scuba part of the new diving manual. As reported in the last issue of Faceplate, on 19 July we finished the editing and typing and forwarded the volume to Bu Ships via BuPers and BuMed for approval and printing. Meanwhile Mr. Harwood went back to his publication mill at BuShips and commenced laying out the book for printing. Cdr. Greely and Mr. Foran commenced getting the approval of all the other technical codes of BuShips. And Captain Alvis started preparing BuMed Approval. Unfortunately, we did not get a BuPers representative at the writing sessions. Well, several people in that bureau spent the next 6 weeks trying to find someway to uphold the fleet. The book was forwarded on to BuMed on 10 September with the results of their efforts. From here on, we feel safe in promising quick results.

Work has now started on section one of the manual. Several of the representatives from field activities who worked on section three returned for this task. We were happy to see them back. The work is being coordinated by Captain Duffner, U. S. N. (MC) assisted by LT. Ed Lanphier U.S.N. (MC). The team doing the work is composed of:

Capt.	H. J. Alvis		BuMed
CDR.	F. D. Fane		UDU One
LCDR.	Don Gaither		UDU Two
LCDR.	P.R. Kornegay		USNS/SS
LCDR.	Jim Stark, (MC)		NMRL
LT.	Ralph Spiekerman	(MC)	UDU One
LT.	W. E. Webber		UDU One
LT.	Bill Seidel (MC)		UDU Two
LT.	Tom Askin		ServLant
LT.	Michael Delia		EODU Two
LTJG	John Dolan		USNS/UWS
LTJG	Kingsley Nash		EODU One
LTJG	Jack Scully		EODTC
HMC	R. D. MICK		EODU One
HM1	D. K. McElroy		EODTC

We will keep you informed of the progress.

Release of Liability Certificates

LT. K. PLOOF

A number of diving activities having recompression chambers have been called upon to treat civilians who have had decompression sickness. The treatment of such cases has, in general, been quite successful according to reports received by E.D.U. Such service is very commendable from a humanitarian standpoint and conforms to the Navy policy regarding public relations.

No doubt some activities have used, or have considered using, some form of "release of liability" certificate. E. D. U. was considering such action and requested advice from the Judge Advocate General as to the legal value of such a certificate. For such benefit as may be derived therefrom, a part of the Judge Advocate's reply is abstracted here:

"The proposed release is intended for use in connection with recompression treatment, by U. S. Naval facilities, of civilians suffering from decompression sickness. Commercial pressure facilities and competent diving medical experience are usually not otherwise available and the Navy diving activities are called upon to render services for humanitarian reasons.

This office (JAG) has held that an attempted waiver of negligent acts or omissions under the Federal Tort Claims Act would appear to have little prospect of success in defeating a claim against the U.S. under that Act.

It was noted that recompression treatment is normally rendered to persons who are in a critical or semi-critical condition and that the bargaining position of the two parties is not on an equal footing. A contractual exemption from liability for negligence is seldom permitted to stand when the contracting parties are not on roughly equal bargaining terms.

In view of the foregoing, this office is of the opinion that any attempted waiver of future claims against the U. S. would have little, if any value in connection with potential claims against the government based on negligent acts or omissions of officers, agents or employees of the government. Further it is considered that the use of such a form, in cases where the persons are receiving emergency treatment while in a critical or semi-critical condition, would invalidate the attempt of release of liability from a legal standpoint and also the procedure might well be considered undesirable as a matter of policy and public relations under the circumstances."

Charges for Recompression Treatment

A case is presently pending, in the office of the Judge Advocate General, on the collection of charges by a Navy diving activity for recompression treatment. E. D. U. will advise you of the final decision. In the meantime, it is assumed that activities will uphold the Navy traditions by lending a helping hand, where needed, at no cost.

Still more about HeO_2 Pay

We recently heard of a group of divers drawing both incentive pay for hazardous duty (HeO2 pay) and footage pay. Let's not ride a good horse to death. No diver is entitled to both HeO2 pay and footage pay. Sometimes it's convenient to interpret the Comptroller's Manual to our own advantages, however these things usually come to light and then a checkage of pay results. The pertinent section of the manual is paragraph 044055, subpara. 2A, 2c, and 3. Subpara. 3 states that members drawing hazardous duty pay (Para. 044080) are not entitled to concurrent credit for diving pay as authorized by subpara. 2 a. (Master, 1st class, etc.) Subpara. 2c. states that footage pay is in addition to the monthly rate prescribed in para 2a. That seems to answer the question - if you're not entitled to pay as prescribed in 2a - how can you be entitled to anything in addition to such pay ???

Physical Conditioning in Divers

LCDR. WORKMAN

In reference to the importance of physical conditioning in divers, the Manual of the Medical Department Ch. 15-30(1C) has this to say:

"Diving candidates should be rugged individuals without tendency toward obesity. Fat absorbs about five times the volume of nitrogen as lean tissue and due to the low circulation rate of fatty tissue, the nitrogen is eliminated very slowly, thus acting to increase the incidence of bends. It is considered in general that candidates should present no greater than 10 percent variation from standard age - height - weight tables.

Consideration will be given however, to applicants whose overweight is considered to be due to heavy bone and muscular structure."

The age - height - weight tables allow increased weight with increasing age. Circulatory efficiency is reduced with age however, so that increasing weight, though within the limits of the 10 % variation from standard, may be an additional factor further increasing the tendency for bends, thus it is very important that deep sea divers with their possibility of long deep exposures to pressure be in top physical condition, avoiding obesity as a precaution against severe bends. This is not only from the standpoint of frequent occurence of bends involving long periods of treatment in the recompression chamber, but to avoid the possiblity of permanent nerve damage as a residual state occurring in spite of adequate treatment. As with accidents of all types, prevention is vastly better than the very best treatment.

It is well known that there is considerable variation in the likelihood of occurrence of bends between individuals, and in the same individual from day to day. Divers fatigued from lack of sleep are much more prone to bends after a dive that would not so affect them when rested.

The effects of alcohol remaining in a diver's system after a night of drinking can spell the difference between success or failure in his performance on a diving job. An emergency situation requiring great physical endurance in the face of exhaustion may occur as readily as a routine dive. Here lives hang on the balance of the diver's physical condition.

It is known that utilization of alcohol by the body is interferred with by oxygen breathed at increased pressures. The breakdown of alcohol is stopped part way to completion with substances such as acetone being formed in the blood. The same type of thing occurs in the diabetic patient without sufficient insulin and can be a cause of death for the diabetic. At the least, it can make a diver on oxygen under pressure very sick.

Such a diver becoming ill on oxygen requires emergency procedures. Oxygen decompression must be discontinued and the emergency air table or emergency helium-oxygen table used. The minimum decompression time required will be about 3 hours.

A diver owes it to himself and his fellow divers to be in top physical condition at all times, so that he can dive safely with minimum incidence of bends, and free of after effects of alcohol and fatigue. It is only in this way that he can perform his best on any diving job that may arise, whether it be routine or emergency.

DEEP SEA DIVING SCHOOL LCDR H. ULRICH

Since the last issue of Faceplate, class 5-56, consisting of one officer and six enlisted men, has joined the fleet. All students were assigned to diving billets. LTJG LANPHEAR will report to the U.S.S. GREENLET ASR-10 early in October.

Student input continues to increase. Class 2-57 which convenes on 1 October will have 18 students enrolled. Among these will be 2 officers from the Japanese Defense Agency, and 2 officers from the Royal Thai Navy. The wardroom, during the noon hour, resembles the lobby of the United Nations Building, with student officers from Japan, Thailand, Spain and Turkey adding their comments to the "bull session". Additional students from Columbia, Chile and Peru are expected later in the year.

Eleven enlisted men from the CTG KURTURAN (Ex - USS BLUEBIRD) completed a 2 week helium-oxygen refresher course recently. Despite the language barrier, and you should hear the Turkish language with a helium accent, the course of instruction was completed with out a mishap. The KURUTAN is in the shipyard at Philadelphia for overhaul, conversion to the permanent HeO_2 arrangement and installation of the all chain mooring gear.

On 1 October, 9 medical officers from the Submarine School at New London, will start an eight week course of diving instruction. Included in this group will be two medical officers from the Turkish Navy.

The new diving exhibition tank is currently in St. Louis, Missouri at the "Mid-America" Jubilee". With first class commercial air transportation and per diem furnished by the sponsors, there has been no dearth of volunteers for these "vacation" trips.

Welcome aboard to Chief Boatswain MORAIS and RANGER, C.A., MEl. Mr. Morais completed a tour of duty on PETREL (ASR-14) and will relieve CHBOSN DEMOGALA as Officer-in-Charge of the YDT-5. Mr. DOMOGOLA will take over as Senior Instructor. RANGER came to the school from the GREENLET, ASR-10, as a relief for BARRETT, J.F., MEl. Barrett was transferred to SUBRON 4 for duty.

PERSONNEL NEWS — LT. K. PLOOF

LT W. F. SEARLE, USN has relieved LCDR J.V. DWYER, USN as EDU Project Officer. Welcome aboard, Bill - we trust your tour here will be interesting.

Welcome aboard also to BN1 Frank KRASIC. This is your second tour at EDU and we're sure you'll enjoy it.

Congratulations to Yeoman WILTERDINK who is the father of a bouncing baby girl.

Draftsman G. V. RAFALOWSKI was advanced to CPO on 16 September and was duly dunked in the Anacostia River. Congratulations, Ski.

LT K. PLOOF has had advance word of a transfer to U.S.S. FLORIKAN (ASR-9). No orders as yet, but they should be here any day.

CWOMC Herb SNIDER 'lows as how he's had the course. Herb has requested retirement on 1 November. We'll miss him around here. Herb is an EDU man of long standing. He did much of the early work on helium-oxygen analysis and has directed the EDU laboratory in an outstanding manner. Many young diving hospitalmen received much of their training from Mr. Snider. Good luck in civilian life, Herb.

PROJECT NEWS — LT SEARLE, Jr.

There have been a number of interesting project reports issued since the last issue of FACEPLATE and the Yeoman continues to be quite busy.

The major effort, so far as project work is concerned, has been and continues to be the testing of the new decompression tables. The new tables represent an effort to set forth the decompression theories in formulae acceptable to automatic calculating machines. The formulas and set dives were fed into the large UNIVAC at the Bureau of Ship's David W. Taylor Model Basin. The work of subjectively testing the UNIVAC's answers is progressing very nicely, questionable areas are being examined and formulas modified as necessary and in the not too distant future we may expect revised (and improved) tables.

In line with our policy of giving some dope on recent project reports which may be of interest to you, following are the ABSTRACT and SUMMARY from two reports on the Northill Air Lung, Class I, Open-Circuit, single diaphram demand type SCUBA. Though report 8-57 indicates the unit, as modified by the fourth field change, is "suitable for use in the Naval Service" field activities are cautioned that purchase should not be made unless specifically approved by the Bureau of Ships (Note that BuShips has recently issued MIL SPEC MIL-R-19558 (SHIPS) of 14 AUG 1956 entitled "Regulator, Air, Demand, Diver's".)

ABSTRACT

This evaluation was made to determine the suitability of the Northill Air Lung for Naval service. The apparatus was evaluated objectively by breathing machine tests and depth swimming tests, with respiratory pressure instumentation. It was evaluated subjectively by swimming pool runs. Breathing machine test results are summarized as graphs of peak inspiratory pressure against cylinder pressure. Depth swimming test results are summarized as graphs of peak respiratory pressures, cylinder pressure, respiratory-minute volume and respiratory rate, all against time. Subjective comments for swimming pool runs are given verbatim. The results are discussed constructively and lead to specific conclusions about the apparatus and its suitability for Naval service.

SUMMARY

PROBLEM

Is the Northill Air Lung demand regulator suitable for use in the Naval service with the second or third field change installed?

FINDINGS

(1) The regulator is mechanically good. It is easy to dismantle and reassemble for repair. It is not prone to mechanical failure. The hose clamps are not satisfactory.

(2) The regulator with the second and third field changes installed is not satisfactory for 0.85-knot swimming to depths of 200 feet.

(3) With the second or third field change, the Northill Air Lung demand regulator is not suitable for use in the Naval service.

ABSTRACT

This report covers the evaluation of the Northill Air-Lung Regulator to determine the suitability of the apparatus for use in the Naval Service to depths of 200 feet at work rates equivalent to 0.85-knot swimming.

For the description of the demand regulator in detail, see Evaluation Report 3.57. The regulator was tested objectively by breathing machine runs and subjectively by depth swimming runs, with instrumentation for respiratory pressure, respiratory minute volume, and breathing rate. Subjective swimming pool tests covered in Evaluation Report 3-57, were not repeated here. Breathing machine runs are summerized as recording tape excerpts of peak respiratory pressure versus depth and cylinder pressure. The subjective depth swimming runs are summarized as graphs of peak respiratory pressure, respiratory minute volume, and respiratory rate against time, cylinder pressure, and depth.

The results are discussed constructively and lead to specific conclusions about the apparatus and its suitability for use in the Naval Service.

SUMMARY

PROBLEM

Is the Northill Air-Lung Regulator suitable for use in the Naval Service to depths of 200 feet at work rates equivalent to 0.85-knot swimming.

FINDINGS

The general findings of Evaluation Report 3-57 remain unchanged except for satisfactory performance and suitability. The following specific findings apply to this evaluation.

(1) The regulator is satisfactory for depths of 200 feet at work rates equivalent to 0.85-knot swimming.

(2) The regulator meets EDU Laboratory criteria of suitability for use in the Naval Service.