



# FACEPLATE

The Official Newsletter for the Divers and Salvors of the United States Navy

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## ***In This Issue...***

***Navy Divers Test New Launch & Recovery System***

***NAVY Divers Complete First-of-its-Kind Maintenance OCONUS***

***From Deep Sea to Deep Space***

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

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CAPT Murphy, CDR Ritland, NDCM Wolfe, NDCM Hopkins, NDCM Dumke pose for a photo with MDSU TWO N7 Department before a morning dive on the HOS MYSTIQUE during the Diver launch and Recovery System (LARS) user evaluation 17-18 SEP 2019.





# SUPSALV SENDS...CAPT Jay Young

Today is a great day to be a Navy Diver! It is hard to believe that just four months ago, I relieved CAPT Keith Lehnhardt as SUPSALV. Time flies when you are doing what you love. Serving as the 28th SUPSALV is an honor and privilege, and I look forward to working with all of you as we continue to expand our Diving and Salvage mission. A special thank you and BZ to CAPT Lehnhardt for his tremendous leadership over the last three years. Keith didn't stray from the Navy Diving community; he is now leading NAVSEA's Acquisition and Commonality Directorate (SEA 06) where he provides leadership support to our EOD and NSW acquisition program offices. Thanks, Keith, for your dedication and commitment to Navy Diving.

Since the origins of Navy Diving, the men and women of our diving community have built a legacy of outstanding performance and technical expertise, and we continue to build on our rock solid foundation. The work we do is extremely demanding and often dangerous, and our foundation supports the pillars of Commitment, Communication, Teamwork, and Trust to safely and effectively accomplish our mission.

- **Commitment:** People are our most valuable asset, and taking care of those around us is paramount. Commitment to each other, commitment to your families, commitment to the Navy, and commitment to advancing our salvage and diving advantage around the world. I challenge you to always strive for positive change and personal improvement and foster respect up and down the chain of command. Everyone deserves the highest measures of dignity and respect, and you will receive such from me.
- **Communication:** Communicate early, often, up, down, and across your organizations. Be clear and effective, be approachable, be respectful, and be professional. You are the experts in your field, and I want to hear your ideas, so we can work together



to further expand our advantage.

- **Teamwork:** Collaboration and cooperation is essential, and everyone has a critical role in our Team's success. Be actively inclusive as top performance is achieved by leveraging the capability, energy, and expertise of our most valuable asset - You.
- **Trust:** Trust is the root of a successful and strong team. Trust is earned by demonstrating competence and character. Be committed to each other, communicate openly with each other, and hold each other accountable.

We are extremely fortunate to be part of U.S. Navy Diving right now. Many opportunities await in our Salvage, Diving, and Underwater Ship Husbandry arenas.

**Salvage** – We must ensure that our Navy Salvage Program is ready and able to execute salvage operations in a contested environment in order to win in an era of great power competition. In August 2019, we convened the Salvage Executive Steering Committee which assembled more than 60 leaders from all three legs of the Navy Salvage Triad (SUPSALV, NECC, and MSC) to review the current state of Navy Salvage and take action to increase readiness. Much of the discussion centered on our capability and state of readiness to effectively conduct

salvage operations during wartime, and we have work to do. I encourage you to search out opportunities train with all elements our Navy Salvage Triad now because our response to peacetime casualties will enhance wartime readiness.

**Diving** – Our EOD community is making great strides towards delivering the next generation closed circuit UBA to replace the legacy MK-16 UBA. Testing and evaluation of three prototypes is ongoing at the Navy Experimental Diving Unit to support PMS 408's UBAs selection. Continue to check back here for progress updates.

**Underwater Ship Husbandry** – As long as we have ship floating in salt water, our underwater ship husbandry dive lockers will have steady work load. Our 355 ship Navy is coming, and we need to be ready to answer the call. Our UWSH experts on the waterfront and here in SUPSALV must continue to innovate and develop new technologies, procedures, and equipment to effectively execute underwater repairs on ships and submarines to avoid costly dry dockings and increase ship/submarine operational availability. If you have ideas on how we can improve readiness and increase efficiency, I want to hear them.

There is a saying that 'you can't go home again' meaning that once you returned to a place you once lived, so much will have changed since you left that it is not the same place anymore. As a Lieutenant, I served in SUPSALV as an Underwater Ship Husbandry project officer which was an awesome experience. Returning to SUPSALV 14 years later is as close to coming home again as I can get. A few things have changed, but many things are still the same...most importantly the tremendous team of professionals with whom I am so lucky to work.

For those of you who know me, know that I am not a fan of the desk. I get my energy from engaging with you during operations, so watch for me in your dive lockers and on your dive sides. I look forward to working with all of you. Hooyah, Deep Sea!

# UNAUTHORIZED MK-20 MOD 0/1 REPAIR PARTS

By: NDCM (MDV) John D. Hopkins

Hoo-Yah and greetings to all. I'm NDCM (MDV) John D. Hopkins, one of the Fleet Master Divers at NAVSEA. Over the last three years, while touring the fleet and conducting Diving Operational Readiness Inspections (DORI), I have seen numerous incidents of unauthorized parts installed in diving helmets and full facemasks. This presents a serious problem with configuration control and in turn safety. This equipment, having passed rigorous testing by Navy Experimental Diving Unit, then placed on the Authorized for Navy Use (ANU) List, must be maintained in the approved configuration. This, much like our other diving systems, must be maintained in an as built, as certified condition. I am writing this with regard to Diving Advisory 15-12, MK-20 Maintenance and PMS Procedures and Repair Parts Management, because the NAVSEA DORI Team and the Naval Safety Center are still finding unauthorized parts during inspections.

The MK-20 MOD 0/MOD 1 Full Facemask known commercially as the

Interspiro Divator positive pressure, or non-positive pressure must be maintained with repair parts only from the original equipment manufacturer (OEM). These repair parts, both soft goods and hard parts are supplied by the OEM and distributed through authorized dealers. Problems arise when the other dealers try to substitute similar parts from other non-OEM sources to cut costs.

As per Diving Advisory 15-12, all diving units were directed to discontinue use of non-OEM thickness gauges and conduct a detailed inventory of all PMS repair parts to ensure the materials meet the requirements. Units are further reminded that changes or substitutions of DLSS or PMS related materials shall not be made without prior approval. Diving units are advised to conduct a full inventory to verify that all DLSS repair parts purchased from vendors meet the specifications listed in the operations and maintenance manuals, manufacture technical manuals, and/or the PMS system. Further Technical guidance can be obtained from NAVSEA 00C.

We are still finding the incorrect thickness gauge "Gholson Gauge" in use, incorrect valve disks "non-return valves" in the inner oral nasal mask and O-rings from non-OEM sources. All parts from Interspiro come in a baggie or a box labeled with the Interspiro company name and part numbers. Interspiro parts that arrive in a box or kit may contain soft goods in smaller baggies with only the part number on them, but the larger box still is labeled with the OEM name and part number for the kit. I have included a few photos of the MK-20 MOD 0 service kit so that you have an example of what to look for in the future when you receive the service kits. We recommend that personnel servicing the equipment attend an OEM technician course. Always have your MRC, technical manuals, and/or service manuals on hand when conducting maintenance. Correct parts should be verified with the Technical Manual and PMS. Please ensure that you are only using approved materials for your own safety as well as the safety of your fellow divers.



**MK-20 Service Kits**



# NAVY Divers Complete First-of-its-Kind Maintenance OCONUS

By: LT Robyn Bianchi

In September 2019, Underwater Ships Husbandry (UWSH) Division, NAVSEA 00C5, supported Trident Refit Facility (TRF) Kings Bay divers during a joint overseas repair on a deployed submarine in Souda Bay, Greece. This first-ever Continuous Maintenance Period (CMAV) conducted in Souda Bay included a waterborne repair. Previously, repairs were only conducted during dry dock availability.

The submarine, which was deployed in the Sixth Fleet Area of Responsibility (AOR), experienced problems with its AN/WSQ-9A Outboard Transducer Array Assembly (OTAA) sensors and associated cables. The issues identified by SUBFORCE indicated both the forward starboard and the aft port OTAAs were inoperable.

With the complexity and unknown extent of the repair, coupled with the schedule constraint of the availability in an abroad foreign port, the decision was made to plan for a fourteen-day operation running two dive sides simultaneously for twelve to eighteen-hours a day, per shift. One dive side operated on the forward starboard OTAA repair, and the

second dive side operated on the aft port repair. Because the CMAV demanded time and manpower, the assistance of FDRMC DET Bahrain Divers was requested to aid in the waterborne repair. The collaborative dive locker consisted of TRF Kings Bay Divers, and the FDRMC DET Bahrain Divers, which consisted of MARMC, SWRMC, and SERMC divers. Three technicians from the Navy Engineering Logistics Organization Detachment (NELODET) joined the repair team. With seventeen Navy Divers, one NAVSEA UWSH Program Manager, two Emergency Ship Salvage Material (ESSM) mechanics, and three NELODET techs, this repair officially began five days after the official start of the CMAV due to many logistical roadblocks that had to be overcome with moving large amounts of gear to a remote overseas location.

With a five-day late start, the pressure was on. Both dive sides began to work through the very complicated UWSH procedure for both the forward and the aft OTAA system repairs. The forward dive side successfully removed the OTAA sensor in two short days. Due to the submarine's moored position to

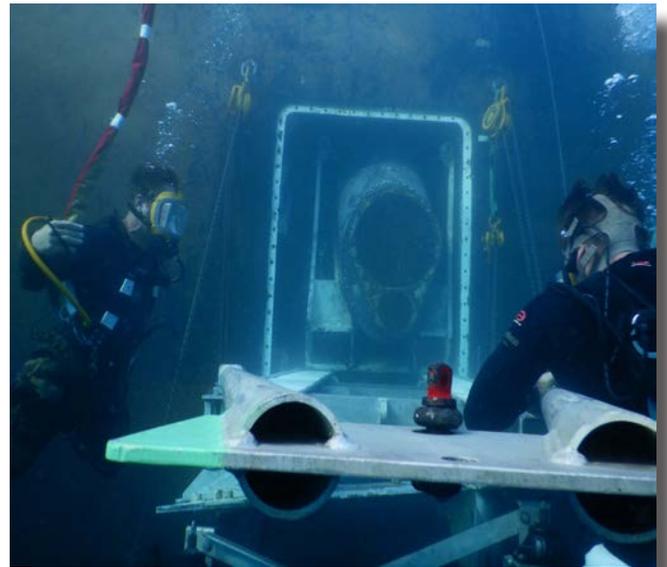
port and the OTAA sensor location outboard to the pier, the starboard OTAA required a unique technique for repair. The OTAA sensor had to be suspended over the submarine by crane while the NELODET technicians hooked up their test equipment to troubleshoot the issue. NELODET reported that the cables themselves were the reason for the failed system. OTAA sensor replacement alone vice the cable replacement would have been the easier and quicker repair. Cable runs conducted in dry dock typically last weeks and scaffolding is required to navigate safely through the dark "metal jungle gyms" of the MBT baffles and high compartments. However, the divers were able to replace all three cables in just 2 days.

Concurrently, the aft dive side successfully removed the aft port OTAA sensor in a day and a half. Like the forward cable run, the aft cable runs, always conducted in dry dock- until now, typically take a month or more to complete. However, the divers were able to replace all cables in just 2 days.

Both dive sides successfully completed the forward and aft cable runs in 2 days. Five days into the repair, the dive



*ND1 James Duffey installing strain relief line on OTAA cables in preparation to crane OTAA sensor topside.*



*ND1 Mitch Baker and ND2 Cole Cunningham installing the forward OTAA Removal Fixture.*

sides began to re-install the OTAA sensors into the sea chests and button the submarine back up. On day 9, diving operations were complete. The submarine OTAA WSQ-9 Sensor was 100 percent operational. The joint dive team, along-

side the ESSM mechanics and NAVSEA UWSH representative, were able to provide critical feedback and information that led to procedure refinement and correction. The execution of these repairs is a testament to the entire team that came

together as one unit and completed the complex job well ahead of the expected timetable; constant communication and coordination by all team members was the key to success. The operational impact on the deployed submarine was

reduced by conducting the repairs waterborne; avoiding an expensive and time-consuming evolution of dry-docking in order to conduct these repairs. TRF KB, SWRMC, MARMC, and SERMC divers combined with the NAVSEA 00C EDO's and are a highly mobile and capable team with a goal of keeping the Fleet operationally ready.



*Joint Dive Team: Left to right: CWO3 Joe Sweeting, ND3 Jacob Jean, ND1 Jacob Lamien, ND2 Neil LaPlant, ND3 Charles Fillebrown, ND2 Jarad Leestma, ND2 Joshua Berti, NDC Edward Briggs, ND2 Ashley Smith, ND3 Blake Lamb, ND1 Mitch Baker, ND1 Stephen Schilz, ND2 Cole Cunningham. Bottom Left to Right: ND3 William Trainer, LT Robyn Bianchi. Not Pictured: ND1 James Duffey, ND3 Brandon Barreto*

*Article Cover Photo: ND1 James Duffey, ND3 Brando Barreto, and ND3 Jerad Leestma removing aft port OTAA from Horizontal Fin Stabilizer.*

*Article and photos by: LT Robyn Bianchi is an EDO, Diving and Salvage Officer on her qualification tour at NAVSEA's Office of the Director of Ocean Engineering, Supervisor of Salvage and Diving assigned to the Underwater Ship Husbandry Division.*

# *From DEEP SEA to DEEP SPACE*



**By: CW02 Lonn E. Trinidad**

**E**xplosive Ordnance Disposal Mobile Unit Three (EODMU THREE) also known as the “Team of Teams”, homeported in San Diego, California is working alongside National Aeronautics and Space Administration (NASA). The U.S. Navy Divers of Mobile Diving & Salvage (MDS) Company 3-1 were identified as the team of choice. Their unique capabilities made them an ideal partner to support NASA’s mission in testing procedures for events leading to ARTEMIS 1, formally named Exploratory Mission 1. ARTEMIS I is unmanned and currently scheduled for late 2020, it will be launched from Cape Canaveral and travel 250 miles past the moon and land off the coast of San Diego. This deep space exploration program

was named after the mythological Greek goddess of the moon, who was also the twin sister of Apollo. The ARTEMIS II mission is aimed to launch the next American man and woman to the moon.

The newly established United States Space Command requested assistance from the Navy to participate during the Underway Recovery Test (URT). URT is a week of training at sea with NASA and Department of Defense teams working to safely retrieve the Orion crew module. NASA engineers routinely work with divers to test integration, coordination, and execution of all retrieval planning operations in varying sea states, during the day and at night. The MDS Company are widely dispersed into small crafts and each of the teams will have a Navy

Diver assigned. As boat leaders, they provide direction during the monitoring of toxic gas fumes, detecting radiation, documenting capsule damage, and the attachment of hardware for ship recovery. Demonstrating proof of concept that deconditioned astronauts can be recovered within two hours of splashdown.

Operational limitations are identified during the rehearsal of Just-in-Time Training (JITT). A time-hacked evolution that was simulated in San Diego Bay with multiple entities working together to safely approach the flight hardware. Once secured, it will be recovered from the ocean and transferred onto a U.S. Navy amphibious ship. EODMU THREE dedicated 30 hours of training to maximize success



*ND2 Alexander, ND2 Aston and ACB-1 Sailors retrieving the parachutes and associated hardware.*



*ND1 Eli Stoller, ND1 Kurtis Robinson, ND2 Matthew Guzman, ND2 Toby Godwin, ND2 Jacob Aston, NDC Beau Lontine and ND1 Chase McCain standing clear of the Forward Bay Cover rigging operations.*



*MDV Adonis Patrick, ND2 Jason Hohl, ND2 Anthony Kubichan, ND2 Jacob Aston and ND2 Toby Godwin performing visual checks on attachment points.*

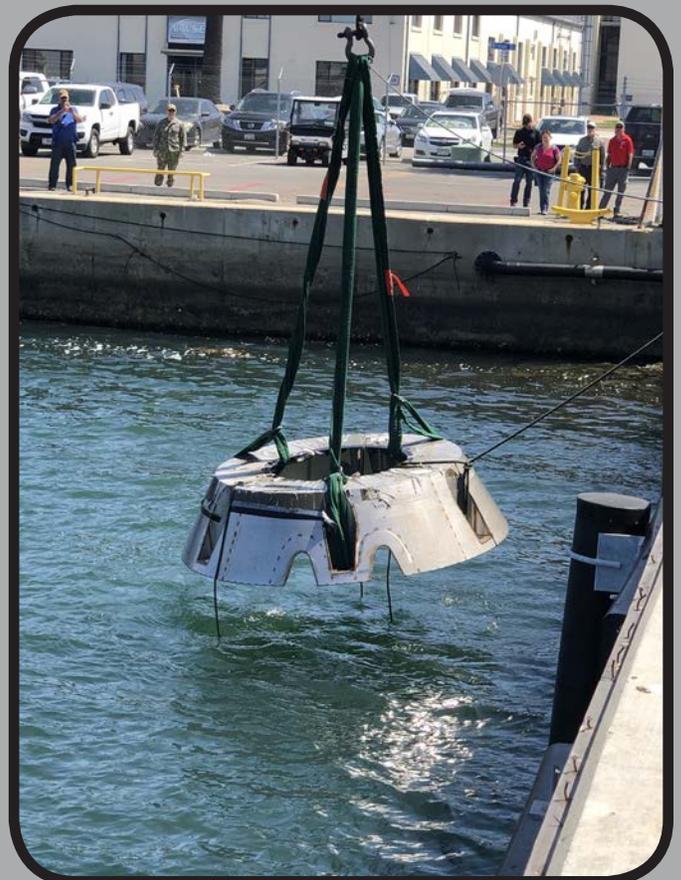
for URT-8 scheduled in early 2020, where it will be utilized for the first time.

There is always room for improvement during these types of operations and once again, the U.S. Navy Divers allowed NASA to verify and validate procedures and hardware. The URTs have been conducted since 2014 and will continue until the process is without error. Data acquired will be used to recover the Orion spacecraft after it splashes down in the Pacific Ocean following deep space exploration missions.

*MDS Co 3-1 Roll Call: CWO2 Trinidad, NDCS Patrick, NDC Swist, NDC Lontine, NDC Tuft, ND1 Faieta, ND1 McCain, ND1 Fagan, ND1 Ludy, ND1 Stoller, ND1 Robinson, CM1 Dube, ND2 Franklin, ND2 Godwin, ND2 Aston, ND2 Hohl, ND2 Alexander, ND2 Guzman, ND2 Kubichan.*

*CWO2 Lonn E. Trinidad is currently serving as the Mobile Diving & Salvage 3-1 Company Commander for EODMU THREE "Team of Teams".*

*Article Cover Photo: MDS Company 3-1 divers attaching flotation device to the forward bay cover.*



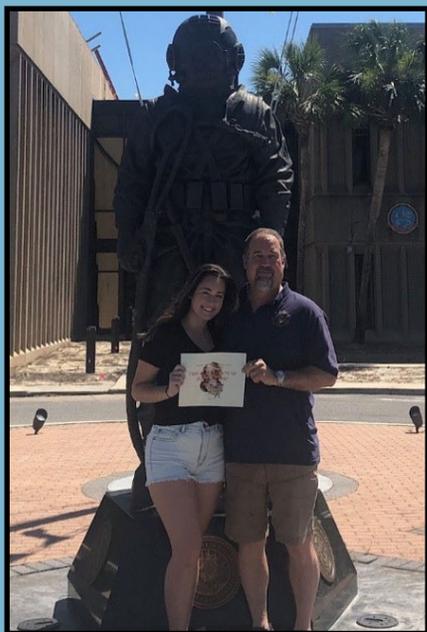
*Forward Bay Closure of the Orion space capsule.*

# Mark V Monument Scholarship Project

By: Dave Sullivan Mark V Monument Scholarship VP, T, & S

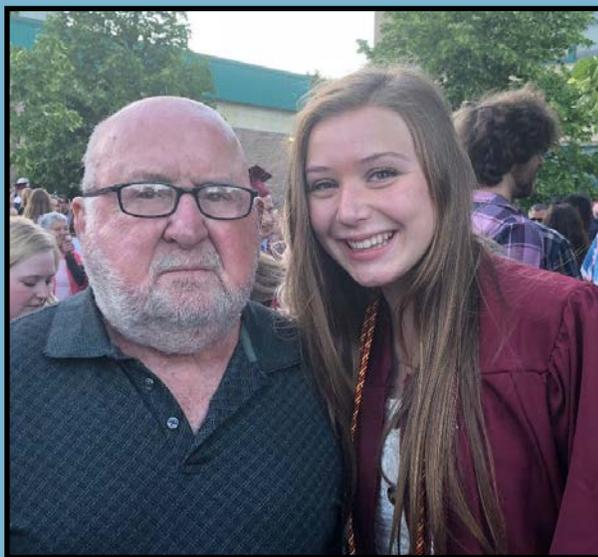
“The Mark V Monument Project” originally undertook a mission to obtain the necessary Navy approval and private funding to fabricate and erect a ten-foot tall bronze/granite JAKE monument at the entrance to the Naval Diving and Salvage Training Center in Panama City, Florida. The monument was completed in October 2012, and dedicated to all U.S. Military Diver graduates, past, present and future that go down in the sea to work. Military Divers are among the hardest working people that willingly labor at one of the highest risk and toughest jobs in country. They generally do not earn enough to bear the high cost of college education for their family without some kind of financial assistance. Therefore, the Mark V Monument Project is in its fifth year of a new mission to generate funds that will provide scholarship assistance to the children, grandchildren, and spouses of U.S. Military Divers. We are excited to now focus on this new and worthy mission and are grateful for the donations and volunteer efforts that enable us to operate toward success. We recently distributed the annual scholarship awards for 2019.

The recipients of the 2019 Mark V Monument Scholarships are;



**Madison Dean**  
*daughter of*  
Retired Navy Diver Chief  
James “Brad” Dean

*“I would like to thank the Mark V Scholarship Board for giving me the opportunity to achieve my scholastic goals with the acceptance of this award. This award will allow me to attend Stetson University in the fall with a concentration in Biology, which I intend to use in my pursuit in the medical field. Once I receive my Bachelors Degree from Stetson, I plan to attend Uniformed Services University of Health Sciences and enter the military to become a surgeon. Medicine is forever changing and I’m thankful for the opportunity to change with it.”*



**Emma Vlaun**  
*granddaughter of*  
Retired Navy SFCM (MDV)  
Donald Smith

*“Thank you so much for reviewing my application and selecting me as a recipient of your scholarship award. I have just graduated from high school and next year I will be attending the University of Connecticut as a member of the Special Program in Dental Medicine, as well as a member of the Honors Program. The money that I received from your scholarship foundation will help me to achieve my future goal of being a dentist. I appreciate the time and effort the committee took to raise money to fund the scholarships. My grandfather was a Master Diver in the Navy, and without his encouragement I would not be the person I am today. Thank you for supporting students like me.”*

# Navy Divers Test New Launch & Recovery System

By: NDCM Jason Cook, Navy Expeditionary Combat Command

Master Diver Jason Wahl paces back and forth, visibly anxious to get the evolution started... “Let’s get wet, Sup!” Personnel from Mobile Diving and Salvage Unit (MDSU) TWO, accompanied by representatives from NAVSEA 00C, Navy Expeditionary Combat Command (NECC), and Underwater Construction Team (UCT) ONE, are embarked aboard HOS MYSTIQUE. Their mission: field test the Logan Industries Diver Launch & Recovery System (LARS) for possible use by MDSU ONE and TWO.

Early diver handling methods were nothing more than tenders lowering and raising a diver by means of a strength member, integrated into the divers’ air supply hose and communication line. In the 1940’s, the need to ensure divers remained at their prescribed decompression depth, led to the development of the divers’ decompression stage. Early iterations were nothing more than a board, affixed to a length of line leading to the surface, which a single diver would stand on; a design similar to a child’s swing. Later advancements to the diver handling system would include: Adding a davit, thereby offering mechanical advantage while raising and lowering the stage; a larger stage that could accommodate two or more divers; and an open-bottom bell, similar to that used in saturation diving, but that remained open and at ambient pressure. All of which grew increasingly larger, and more cumbersome.

In 1991, the decommissioning of USS FLORIKAN (ASR-9) marked the sun downing of the open dive bell sys-

tem, and with it, a move toward the much more portable diver’s decompression stage found onboard the newer auxiliary rescue, salvage, towing, and diving vessel, the ARS-50, SAFEGUARD-class.

capability required for surface-supplied diving operations. This capability gap generated the need for a completely portable Diver’s Weight Handling System (DWHS) and the design, manufacture and fielding of the Mobile Diver’s Davit Assembly (MDDA).

As the only portable DWHS certified for Navy use, the MDDA consists of a large foundational base, a 6-ton hydraulic “knuckle” boom crane, hydraulic power unit, and an approved counterweight (for stability). The entire system weighs in at approximately 16.5K lbs., while occupying over 2,300ft<sup>3</sup>; hardly the definition of “expeditionary”. Aside from the logistical constraints presented by a DWHS of this size, the MDDA has experienced more than its share of operability issues, often originating within its structural and hydraulic systems.

MDSU TWO personnel set out to determine the availability of a Commercial off the Shelf (COTS) solution that, if selected, would not only outperform the MDDA, but also provide a much more rapid-fielding option than that offered by the standard acquisition process. In an effort to streamline field evaluations

at the unit level, NECC has adopted the User Operational Evaluation System (UOES). The process as it applied to the LARS: 1) Upon identifying a possible material solution, MDSU TWO submitted field evaluation request to Explosive Ordnance Disposal Group (EODGRU) TWO. 2) Upon ISIC approval, MDSU TWO requested NAVSEA 00C3 conduct a Hazard Analysis (HA) and EODGRU



*CAPT Thomas Murphy (SUPDIVE), and CDR Trevor Ritland (Commanding Officer, MDSU TWO) prepare to dive the Chesapeake Bay, utilizing the LARS.*

Similar open-construction diver’s stages are still in use today. As the SAFEGUARD-class approaches the end of its service life, and the Navy awaits delivery of its successor, the ATS, Deep Sea divers have been forced to train and operate from civilian-owned Vessels of Opportunity (VOO). These vessels, and the ARS’ successor, the ATS, do not possess the organic, unique lifting and handling

TWO submits UOES Request through the NECC S&T (N89) branch. 3) Simultaneous to UOES submission, 4) Operational command submits FO/GO level waiver. 5) TYCOM utilizes the HA information from the SYSCOM to determine if the risk is low, warranting waiver approval.

The first DWHS evaluated through the UOES is the LARS. Commercially designed and fabricated in the U.S., the LARS A-Frame design aligns the Navy to current industry standard for conducting diving operations from a vessel that maintains its position utilizing a dynamic positioning system. Additionally, it reduces the deck footprint of the MDDA, and provides added redundancy to recover the diver stage, as the >600lb. clump acts as a strong back in emergency situations. Further redundancy is delivered via two hydraulic power units (one electric, one diesel engine driven); performance parameters not offered with the MDDA. Weighing in at 7.8K lbs. (nearly 9k less than the MDDA), and 562ft<sup>3</sup> (over 1,700ft<sup>3</sup> less than the MDDA) the LARS' versatile configuration allows for installation onboard a multitude of support vessels and barges, while greatly exceeding MDDA parameters in terms of logistics.

For their part in supporting the FO/GO waiver (OPNAVINST 3150.27C), NAVSEA 00C set out to assess both the LARS, and the HOS Mystique for suitability in meeting MDSU's capability need, safely. Phase I of the HA focused on information collection. During the review, representatives from 00C3 (Diving Policy) & 00C4 (Diving Certification) conducted a tabletop review of system certification, history, drawings, operation and maintenance manuals, safety records, and SOPs. With phase I of the HA complete, the group moved on to phase II, conducting an on-site survey to observe operations and engage in dialogue with the LARS manufacturer and HOS Mystique personnel. 00C then provided a formal letter to MDSU TWO that included a detailed report of their findings, as well as technical advice regarding best practices in operating the system onboard the HOS Mystique.

The result of the evaluation: As with any new system, divers were required to make adjustments; relying on their greatest attribute—the innate ability to adapt

and overcome. After a few days and a series of pier-side unmanned, then manned runs, the team had mastered the operation of the LARS; they were ready to put to sea and flex the system's full operational capability. The HOS Mystique offers a capability, which is new to the Navy Diving community: Dynamic Positioning. Where Navy surface-supplied diving operations had historically required mooring by means of two or more hard points (a multi-hour evolution), dynamic positioning vessels are capable of holding station through a redundant system which utilizes GPS technology to guide the operation of multiple hull-mounted thrusters.

Shortly after arriving on station, the divers were ready to put the LARS through its paces. First impression of the system was that it is much more robust, when compared to the current system, the MDDA. A simple "A" frame construction lends to the LARS' portability and ease of use. One of the largest safety factors in operating DWHS is the tenders' ability to control the movement of the stage while manned; the longer the deployed wire length (wire spool to stage), the greater motion from wave action. The design of the LARS keeps this length at a minimum, while accommodating diver stages of varying sizes. Yet another benefit of the LARS (over the MDDA), a redundant hydraulic power supply, equipped with a separate diesel, and electric drive unit. While using the MDDA, a failure of the lone hydraulic power unit would result in the divers having to be recovered, by hand.

CAPT Thomas Murphy, the Navy's Supervisor of Diving, and Master Chief Michael Watterson, were asked to comment on their experiences leading up to and with the field testing. "Captain, what are your thoughts, regarding the UOES, LARS, and its field testing?" "The user operational evaluation of the Logan Industries Surface Diver LARS went very well. These evaluations will assist NAVSEA 00C in evaluating multiple COTS LARS systems for military use. Over the next 6 to 8 months, we look to collaborate with NECC in order to evaluate other LARS by both MDSU ONE and TWO. These user evaluations, allow us to gain valuable feedback from the divers who would be operating and using the system.



*Two MK-V air divers completing decompression stop on a two diver collapsible stage.*

We learn how the equipment operates under different conditions and determine what type of safety features and enhancements need to be added to reduce wear on the equipment, allow for different stage, and mounting configuration options." "Master Diver Watterson, during your career, the diver's weight handling system has changed very little. What do you feel a handling system such as the LARS means for the future of Navy Diving?" "Great question. I feel this brings Navy diving out of the stone age and closer to modern diving. The LARS is a smaller foot print than the current MDDA it is safer to use and requires fewer personnel to operate. The key to a system like this is simplicity; the fact that it is not over engineered and is user friendly is why the industry has been using them for years."

Regardless of whether the Bay Industries LARS is chosen to replace the MDDA, or not, the initial UOES was impressive, leaving those involved optimistic that a suitable COTS solution exists, which will serve the needs of the Deep Sea Diving community well into the future.

*NDCM Jason Cook joined Navy in November 1999 and made Master Diver in May 2014. Shore commands include: MARMC, PHNSY&IMF; NDSTC. Sea commands include: MDSU ONE, MDSU TWO, EODMU SIX. Staff assignment: NECC.*

# Divers' Quick Actions Crucial in Life-Saving Efforts

By: Michele Fletcher, PSNS & IMF Public Affairs

While engaged in routine dive training, divers from Puget Sound Naval Shipyard & Intermediate Maintenance Facility, Detachment Everett dive team rescued a fellow swimmer and administered life support until emergency personnel arrived and took over. The divers were training at the Naval Station Everett swimming pool May 30, when Navy Diver 2nd Class Christopher Petersen noticed the pool lifeguard talking to a swimmer who appeared disoriented and was hanging on to the pool wall. Petersen mentioned what he saw to Navy Diver 2nd Class Michael Moser. Moser and Navy Diver 2nd Class Bryan

Regan walked over to see what was going on and noticed the signs and symptoms of a stroke in the individual and alerted the rest of the dive team. Navy Diver Chief David Lutz jumped into gear and the entire team began executing an emergency action plan. Moser and Regan jumped into the pool and stabilized the swimmer while Navy Diver Seaman Ian McSalley, Navy Diver 2nd Class Sean Black and Engineman 2nd Class Richard Alvarez helped carry him to the pool deck where Navy Diver 1st Class Caleb Capella, Navy Diver 2nd Class Tyler Russell and Regan gathered equipment and began administering basic life support.

Navy divers train for this kind of emergency and learn to diagnose diving disorders and administer first aid. The training definitely paid off when they recognized the swimmer had likely suffered a stroke or heart attack. The quick action of the entire team resulted in the distressed swimmer receiving immediate vital medical attention, thus saving his life. "As a team with our training, I feel confident that any emergency that arises, we can handle efficiently," said Black. This was not the first rescue by members of the dive team. On March 22, the dive team rendered lifesaving first aid to a civilian employee onboard Naval Station Everett,

who suffered a cardiac arrest. While operating the recompression chamber at Building 2202,

Navy Diver 1st Class Andrew Mixon, Navy Divers 2nd Class Diego Rivero, Capella and Black noticed a civilian employee sitting at a picnic table bent over holding his chest. They quickly realized he was in distress and proceeded to question him on his well-being. He informed them that he had chest pains and his arms felt numb. The team immediately began rendering lifesaving first aid until emergency personnel arrived and took over medical care. The team's prompt actions and basic life support training were vital in saving the man.

"I am extremely proud of our dive locker and their ability to execute an emergency action plan with no hesitation," said Navy Diver Senior Chief Jericho Diego. "Their cohesiveness as a team was instrumental in these incidents."



*Puget Sound Naval Shipyard & Intermediate Maintenance Facility Detachment Everett dive team members (back row) NDCS Jericho Diego, ND2 Richard Alvarez, ND1 Andrew Mixon, NDC Dave Lutz, ND2 Michael Moser and ND2 Christopher Peterson (front row) ND2 Tyler Russell, NDSN Ian McSalley, ND2 Sean Black, NDSN Stephen Guerra and NDSN Luke Jones. Not pictured: ND1 Caleb Capella and ND2 Bryan Regan. (PSNS & IMF photo)*

# Brashear Foundation Presents 5th Annual Navy Diver of the Year

By: Tony Palm

Brashear Foundation President and Founder, Phillip M. Brashear, son of the legendary Navy Master Diver made famous in the bio-picture 'Men of Honor', presented the annual 'Navy Diver of the Year' award today to BU1 Joseph L. Hawthorne, USN at a ceremony during the Military Divers Training Continuum inside the U.S. Navy Undersea Warfare Museum, Keyport, WA. Attending the ceremony was the U.S. Navy's Superintendent of Diving and Salvage, Washington Navy Yard, DC, CAPT Keith W. Lehnhardt, the Commanding Officer of Naval Diving and Salvage Training Center (NDSTC), Panama City, FL CDR Sam Brasfield, and 230 active duty and reserve Navy Divers from around the world.

The Texarkana, Texas native graduated in 2001 from New Boston High School, then attended Henderson State University until enlisting in 2003. After completing Boot Camp and training as a Navy Builder, one of seven occupational specialties that make up the Naval Construction Force (known as "Seabees"). In 2004, Hawthorne reported to Naval Mobile Construction Battalion



*BU1 Joseph Hawthorne presented with his custom paddle from the Supervisor of Diving & Salvage – CAPT Keith Lehnhardt, USN and Mr. Phillip Brashear, President/Founder, Carl Brashear Foundation.*

ment's Leading Chief Petty Officer (LCPO), a rank he has still not attained.

As the LCPO, Hawthorne is responsible for the planning, execution, and supervision of construction, maintenance, repair, and inspection of waterfront facilities worldwide. In his nomination package, Commanding Officer, LCDR J.D. Johncock wrote: "Petty Officer Hawthorne is motivated, operates with remarkable character, puts others before himself, and is absolutely committed to mission success."

During a six-month deployment in 2018 to Rota in support of Commander, Task Force SIX EIGHT, he oversaw the completion of six underwater construction projects valued at \$1.5M. These projects included the execution of 100 mishap-free dives, logging 65 hours of bottom time. While deployed, he led a 15-man 'away team' to Thule Air Base, Greenland, where he supervised 13 dives under the ice, at altitude, in support of a multi-national ice diving exercise.

While his exemplary performance is remarkable, what elevates BU1 Hawthorne to the pantheon of past 'Navy Divers of the Year', is his steadfast professionalism in the face of his son Declan's crushing disabilities. BU1 Hawthorne has maintained an upbeat and positive attitude, one that exemplifies Master Diver Brashear's credo, "It's not a sin to get knocked-down, it's a sin to stay down."

During the award presentation, Mr. Brashear said, "Although the Brashear Foundation has yet to establish an award for the wives who support Navy Divers, BU1 Hawthorne informed me I would be remiss if I failed to mention the extraordinary efforts of his wife Erin, without whose support, he would be adrift and unable to continue in his chosen career."

The ceremony concluded with the traditional reading of the citation and presentation of a custommade paddle reflecting BU1 Hawthorne's diving career.

133, Gulfport, MS where he deployed to Ethiopia, Japan, and twice to Iraq.

After his successful first enlistment, he reported to the NDSTC and graduated in May 2009 as a Basic Underwater Construction Technician and then reported to Underwater Construction Team (UCT) ONE. While assigned to UCT ONE from '09 – '13, BU1 Hawthorne deployed to Spain, Tanzania, Italy, Sicily, and Cuba.

Upon transferring from UCT ONE, he returned to NDSTC for training as an Advanced Underwater Construction Technician learning how to supervise diving operations, the use of mixed gas, along with salvage and recovery operations at greater depths. After graduation in 2014, Hawthorne returned to UCT ONE, Construction Dive Detachment 'Charlie' and was assigned as the detach-



*BU1 Joseph Hawthorne, his wife Erin and family are congratulated by CAPT Lehnhardt & Mr. Brashear after the presentation ceremony.*

# DAVD

## Divers Augmented Vision Display

### Ready for Fleet Issue

By: Paul McMurtrie



The DAVD system is a see-through head-up display capability integrated inside a U.S. Navy diving helmet is ready for fleet issue. The system uses waveguide optical display technology to provide high-resolution color data and imagery to the diver. The diver can clearly view sonar, video, text messages, photos, schematics, and augmented reality overlays during training and actual dive missions using waveguide optical display technology. The DAVD system will radically transform a dive helmet capable by providing:

- Life support data; (O<sub>2</sub>/CO<sub>2</sub> levels, emergency gas pressure)
- Detailed drawings and instructions
- High resolution sonar imagery
- Underwater navigation displays, heading, depth, running bottom time
- Critical asset locations and safety waypoints immediately available to diver
- Top down real time view of diver useful for navigation and target location.
- Future capability increments will include 3D modeling, providing the diver with a 1st person view of himself within the model, and 3D augmented and mixed reality enhancements.

The system prototype was originally developed by Naval Surface Warfare Center, Panama City under the sponsorship and direction of NAVSEA 00C3. The Program is now sponsored and funded by the Office of Naval Research (ONR) through an ONR Future Naval Capabilities program and continues to be managed by NAVSEA 00C3. This program will continue to fund the development of the system through 3 generations of upgrades that will continually add to the DAVD capabilities.

DAVD is currently being developed under a Cooperative Agreement between NSWC PC and CODA Octopus, the developers of the 3D Sonar systems. CODA Octopus is developing the final designs of the system and manufacturing the production model of each generation as the required technology develops.

Final acceptance testing will take place in November-December 2019, and initial fleet issue will take place from January 2020 through June 2020. The first units scheduled for fleet delivery are to the two primary MDSU commands, and the two primary UCT commands. Each command will receive one full up DAVD system, along with system operational training pier side.

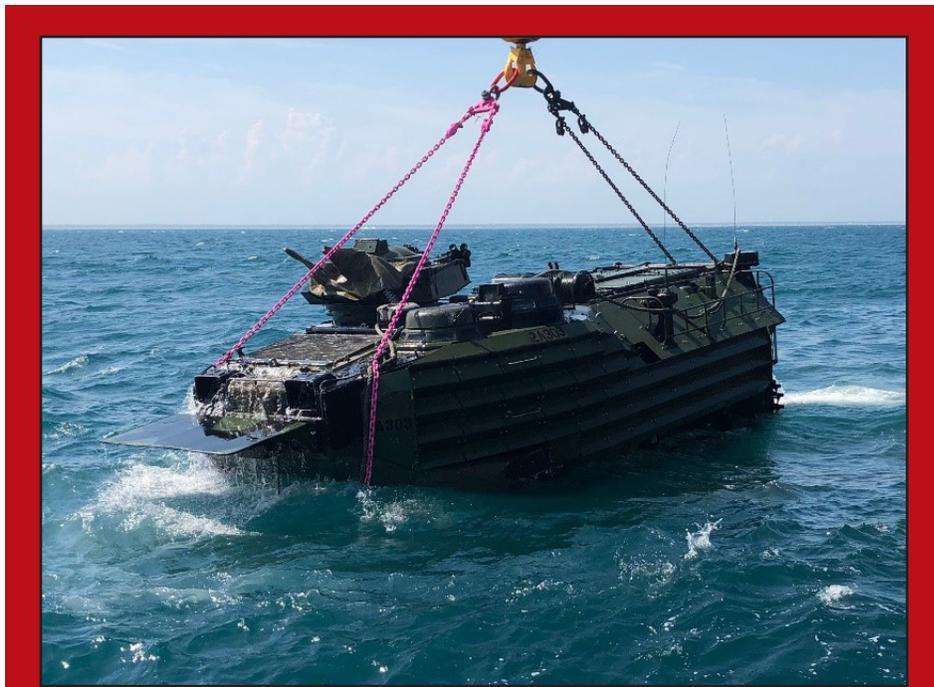
The DAVD program is being developed and issued in a phased approach with follow on generations of the DAVD system adding advanced capabilities, which will be issued to the fleet as upgrade kits to the original systems. These generations of the DAVD system will add capabilities such as 1st person view, augmented reality, camera assist, and a system designed for use with a MK-20 full face mask and UBA's.

In addition to the Navy systems being developed by CODA Octopus, the DAVD system will be built, marketed, and sold commercially, primarily to the law enforcement and first responder communities, and commercial dive companies. CODA Octopus is the industry leader in 3D sonar technology and incorporates this technology into the DAVD system, providing real time 3D sonar images to the diver, as well as the topside control station.

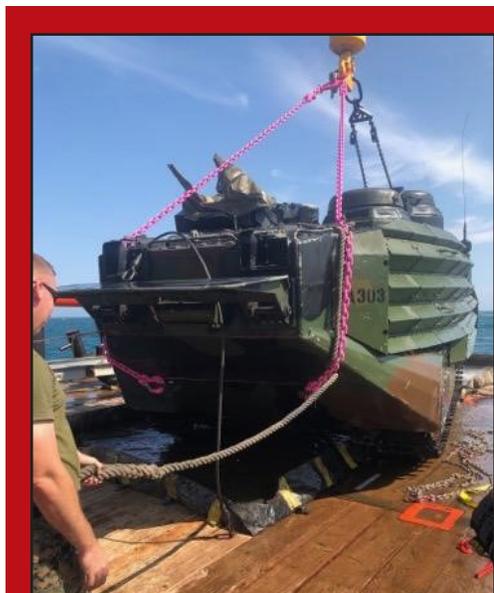
# Mobile Diving and Salvage Unit TWO Company 2-4 Locates, Recovers, and Delivers Sunken 26 MEU AAV within 72 Hours

By: CDR Trevor Ritland and MDSU TWO

On 14 July 2019, while conducting Amphibious Operations off the coast of Camp Lejeune, North Carolina, the U.S. Marine Corps' 26th Marine Expeditionary Unit (MEU) lost an Amphibious Assault Vehicle (AAV) due to taking on excessive amounts of water during its transit ashore. The U.S. Marines reached out to U.S. Fleet Forces to recover the AAV and sensitive operational equipment onboard. U.S. Fleet Forces activated their available fleet support diving and salvage unit under its Service Authority and tasked Naval Expeditionary Combat Command to provide support. Mobile Diving and Salvage Unit (MDSU) TWO answered the call and redirected Mobile Diving and Salvage Company (MDS Co) 2-4 operating off the Hornbeck Off Shore (HOS) MYSTIQUE, serving as a contracted Vessel of Opportunity (VOO) to assist. MDS Co 2-4 just completed a previous Request For Support mission and within 48 hours of notification, coordinated with



*USMC Amphibious Assault Vehicle (AAV) being recovered from a depth of 50 FSW off the coast of Camp Lejeune, North Carolina.*



*USMC AAV safely on the deck of the HOS MYSTIQUE.*

the 26th MEU, planned the recovery operation, and were in the position of the last known location of the AAV. Despite

the limitations of deck space on the fantail of the HOS MYSTIQUE, MDS Co 2-4 repositioned the team's gear to accommodate the assault craft. Less than 12 hours later, the team located the AAV at a depth of approximately 50 feet of seawater, launched divers to rig and connected it to the VOO's 70 ton crane, expertly placed the vehicle on the fantail, and began their transit to Morehead City, NC to return the MEU 26th AAV. Completing the salvage operation within 72 hours of notification.

The results of this operation highlighted the professionalism, expertise, and capability of our diving and salvage force.

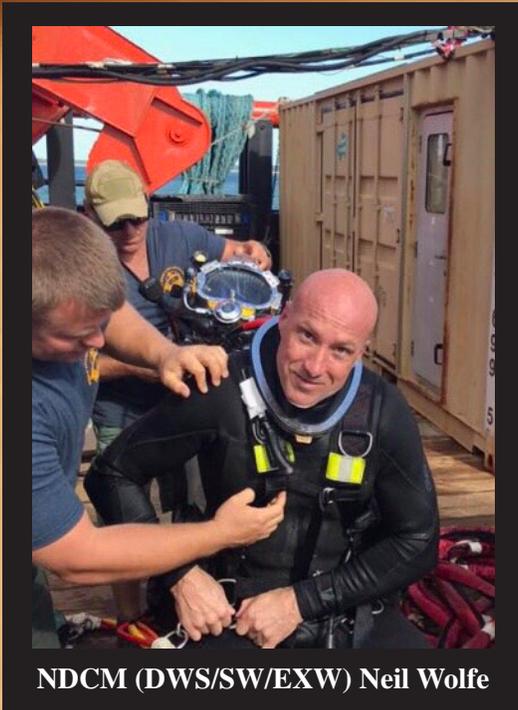
*Photos by: CWO2 Chris Timothy*



*Mission Complete, AAV successfully loaded on to its trailer and ready to be returned to the 26th MEU in Moorhead City, NC.*



# The Old Master



**NDCM (DWS/SW/EXW) Neil Wolfe**

First, I would like to thank NDCM (MDV) Ken Willmoth who is the current Copper Collar for affording me the opportunity to write this article. For those of you who may not know, one of the responsibilities of the Copper Collar is to write the “Old Master” article. HOO YAH MDV Willmoth, I have the side!

Wow, how time has flown. It really does not feel like I’ve been in the Navy for over 31 years and the dive community for almost 23. Joining the Navy and ultimately the diving community are two of the three best decisions I have ever made. It not only allowed me to serve in the world’s greatest Navy, it afforded me the opportunity to work alongside the absolute best Deep Sea divers in the world. As I prepare to come up and over for the last time, I would like take a moment to focus on how each one of us can effect change within our community, the importance of our ethos to ensuring the continued success of the diving community and our people.

For those of you who are not aware, OPNAVINST 3150.27C outlines the Senior Enlisted Advisory Team (SEAT) charter. The SEAT is composed of senior enlisted Navy Divers from across the fleet. Its purpose is to collaborate, discuss, and propose recommended solutions to issues that affect the Navy diving community. Some of the focus areas are diving policy, enlisted diver ratings, and the training and proficiency of divers. The SEAT is one avenue you have to influence change throughout our community. If you have recommendations to help shape the diving community, I encourage each of you to find out who your SEAT representative is and provide them with your recommendations via the chain of Command.

The diving Navy continues to evolve, and with all change we must all strive to initiate or participate in those changes. As the SEAT chairman, I recently had the opportunity to help shape some of those changes while participating in the Training Requirements Review (TRR) for 2C, 1C and the MDV course. These TRRs, held by the Center for EOD and Diving, focused on reviewing existing curriculum to ensure proper alignment of training based on new or revised fleet requirements. While there were no major changes, the minor changes will help shape dive training over the next few years. Some of the recommended changes included basic rigging, UBA maintenance, more bottom time for 2C, and an increase emphasis on operational planning for 1C and MDV just to name a few.

In 2013, one issue the SEAT focused on was the approval of the ND Ethos. It took input from all members to include the fleet to get it done. Part of the ND Ethos states, “I maintain uncompromising standards personally and professionally. Accepting anything less would bring disgrace upon myself and discredit to my community.” If each one of us continues to focus on upholding the standards of our Oath of Enlistment and the ND Ethos, we will continue to represent the Navy and the diving community well. I consider it an honor and a privilege to be part of such a professional organization as the USN dive community.

Lastly, I would like to address the most valuable asset we have, our Sailors. One constant within the dive community is the outstanding caliber of its Sailors. Over the past year, I was able to visit various commands throughout the fleet including MDSU ONE and TWO, MARMC, SERMC, SWARMC, PHNSY, SRF-JFRMC Sasebo and Yokosuka just to name a few. During these visits, whether it was for a Diving Operational Readiness Inspection, training, or just to dive, I was inspired by the professionalism, dedication, and motivation of every diver I met. It is truly why the Navy diving community continues to thrive, and always accomplishes the mission. All of your hard work and HOO YAH are what makes diving the best community in the Navy.

I would be remiss if I did not mention our families. Behind each one of us, are those family members and friends who support us. Without them, it would be impossible to complete the mission. Personally, my wife Donna and our sons Jack and Michael are the reason why I have been able to serve this long. Their sacrifices, like so many others, should not go unnoticed. I challenge each of you to take a moment out of your busy day and thank those in your life who help make it all possible.

In closing, it has been an honor and a privilege to serve with, and for you over the last 31 years. I am humbled to have been called a Navy Diver whether it was as an Engineman, a Master Diver, or as a Command Master Chief. I wish all of you the best of luck.

HOO YAH DEEP SEA





# SUPDIVE SENDS ...CAPT Thomas P. Murphy

I would like to open this SUPDIVE sends, by welcoming NDCM (MDV) Joshua Dumke to the NAVSEA 00C3 team as he brings a great deal of experience from his last position as the 7th Fleet Master Diver and to congratulate and wish CWO5 Mike Hart “Fair Wind and Following Seas” as he begins his retirement after 32 years of devoted service to the Navy and Diving Community. Mike has been a tremendous source of community knowledge within NAVSEA 00C and as the Chairman of Diving Chief Warrant Officer advisory (CWO-AT). I have greatly appreciated his counsel and advice over the last year and half. CWO4 Jason Potts will be reporting to NAVSEA 00C in January and has already assumed the responsibilities as CWO-AT Chairman.

I have continued to look for opportunities to engage with Fleet divers and dive school students in order to provide an update on future diving systems and enhancements that will be introduced to the Fleet within the next two to three years. These engagements allow me time to brief, answer questions, and interact with divers to ensure that I stay in touch with their concerns and needs. Since this Spring, I have continued to update the community on our program advances with briefs during the Military Divers Training Continuum in Keyport, 19-30-JDO, 19-60-1C and 19-60-2C classes at Naval Diving and Salvage Training Center, and Mobile Diving Salvage Unit (MDSU) TWO. In early December, I'll be visiting with Underwater Construction Team (UCT) ONE, Mid-Atlantic Regional Maintenance Center, and NUWC Keyport dive locker.

Recently NDCM (MDV) Wolfe, NDCM (MDV) Hopkins, NDCM (MDV) Dumke and I, had the opportunity to collaborate with MDSU TWO aboard the HOS MYSTIQUE to conduct a User Evaluation of the Logan Industries Diver Launch and Recovery System (LARS).



These evaluations will assist NAVSEA 00C in evaluating multiple Commercial off the Shelf (COTS) LARS for military use. Over the next 6 to 8 months, we look to collaborate with NECC in order to evaluate other LARS by both MDSU ONE and TWO. These user evaluations allow us to gain valuable feedback from the divers who would be operating and using the system. We learn how the equipment operates under different conditions and determine what type of safety features and enhancements needed to reduce wear on the system, allow for different stage, and mounting configuration options. I greatly appreciate CDR Trevor Ritland and NDCM (MDV) Michael Kenefic for hosting us during our visit, your N7 team was very professional and made this evaluation a big success.

Why do we need a new diver LARS? The 1st Navajo Class (T-ATS-1) ship is estimated to be delivered to the Fleet for testing in FY21. It will be a multi Mission Common Hull platform based on commercial offshore Anchor Handling Tug Supply vessels and will replace the capabilities of both retiring Rescue and Salvage Ships (T-ARS 50) class and Fleet Ocean Tug (T-ATF 166) class mission requirements. These vessels will be able to support towing, diving, salvage, rescue,

oil spill response, and humanitarian assistance type missions. The LARS A-Frame design aligns the Navy to current industry standard for conducting diving operations from a vessel that is maintaining its position utilizing its dynamic positioning system. Additionally, it reduces the deck footprint of a mobile diver davit and provides added redundancy to recover the diver stage, as the clump weight acts as a strong back in emergency recovery situations. Currently the Navajo Class vessels are not scheduled to have an installed Diver LARS, under this construction plan a diver LARS would need to be embarked with other supporting diving equipment when a MDSU Company (Co) conducts diving operations. In order to ensure that these vessels maintain their desired capability requirements to support diving operations, the time is right to test which system provides the most flexibility for conducting operations from the ATS or other platform that the MDSU Co may be operating from.

On the systems development side of 00C3, we have needed to advance our technical refresh and modernization of our current Navy Dive Computer (NDC) due the unexpected passing of Michael Cochran this past December, the CEO and founder of Cochran Undersea Technology. This past August, Cochran Undersea Technology notified us that they will be closing their doors and will no longer be able to support NDC production for the U.S. Navy after 2019. We are preparing to release a Request For Proposals (RFP) early this coming year, with follow-on NEDU testing to identify the next NDC.

OPNAV N97 (Deputy Dive) has been working the following updates to Navy Policy and international interoperability agreements. The first being to the OPNAVINST 3150.27D (Navy Diving Policy) which is in its final draft, he hopes to submit that for formal routing in early December 2019. The new Div-

ing Policy should be easier to use, as tables have been added to simplify, also some areas have been reworded to align with high (DoD and SECNAV) policy. On the interoperability side, the US/UK agreement has been in the works for about three years now. This agreement will allow U.S. Divers to use U.K. gear, and U.K. Divers to use U.S. gear, worldwide. OPNAV OJAG has reviewed the Memorandum of Understanding (MoU), a new rule that all international agreements now come with a financial memo signed by a Comptroller. COMSUB-LANT is assisting with that, and the Office of Secretary of Defense will have final review before we can send it off to U.K. for their approval and signature.

As always, we value your feedback and ideas so please keep them coming, especially if you have ideas for future Faceplate articles.

## Faceplate Feedback

**FACEPLATE appreciates feedback on our entire publication. So if you want to sound off about something we have published, please do!**

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**<http://www.navsea.navy.mil/Home/SUPSALV/00C3-Diving/Faceplate-Magazine/>**



## Diving Advisories

- 19-11 - Danicorp Manufacturer Recall - Low Pressure Hose. R 260635Z JUN 19
- 19-12 - Release of a new Maintenance Index Page that provides standardized maintenance for divers life support system international organization for standardization containers Mil-Vans R 300635Z JUN 19
- 19-13 - Release of MK-20 Mod 0/1 Underwater Breathing Apparatus Operations and the Maintenance Manual Revision 5 and Interspiro Divator SCUBA Dive Panel. R 300636Z JUN 19
- 19-14 - Issuance of Divator SCUBA DP Operations and Maintenance Manual Revision 1. R 280635Z AUG 19
- 19-15 - XS SCUBA GB01 High Pressure gauge recall. R 020635Z OCT 19
- 19-16 - Poseidon Extreme Deep MK3 service manual and first stage service kit update. R 090635Z OCT 19

For more information on effective diving advisories, go to  
**<https://secure.supsalv.org/home.asp>**