



# Diving Safety Lines

Fall Edition

2010

*Diving Safety Lines* is a semi-annual release by the Afloat Safety Directorate of the Naval Safety Center. The information contained herein is a summary of research from selected reports of diving hazards to assist you in your mishap prevention program. *Diving Safety Lines* is intended to give advance coverage of safety-related information while reducing individual reading time. This bulletin does not, in itself, constitute authority but will cite authoritative references when available. It is recommended that this bulletin be made available to all hands.

## From the Diving Safety Division Head

**LT William Cooper**

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Welcome to the fall 2010 edition of the *Diving Safety Lines*. We have a great edition here for you, filled with lots of useful and important diving safety information.

We have two additions to the Naval Safety Center Diving team. CWO4 Robert Cassels has stepped in as the assistant diving division head and has taken over the arduous task of scheduling safety surveys. In addition, as some of you who have recently been surveyed may have noticed, we now have our own resident Coast Guard Diver. DCC Chris Keplinger has joined our survey team as the USCG dive program liaison. While his main responsibility has been to be our point of contact for USCG diving, he has done a great job integrating into our survey team for several Navy and Air Force dive lockers.

Recently we uncovered an issue with regard to DJRS in which individuals outside of the Naval Safety Center had received roles/permissions beyond what they are entitled. As a result we have corrected the problem and are in the process of making some minor changes to what functions each role will be able to perform. These changes should not affect the individual user; however, if you experience any changes to your permissions in DJRS, contact your DJRS unit manager and they should be able to correct the issue. If the problem persists, have your unit manager contact us here at the Naval Safety Center and we will assist with any DJRS related issues you have.

Please continue to check the Naval Safety Center's new website for all kinds of related information and updates to the diving page. Keep an eye out for updates to our checklists, links to different references, and information on how to request dive history and creating DJRS profiles. Also, if you have not done so yet, be sure to follow the Naval Safety Center on Facebook and Twitter for the latest in safety related information. And as always, if you need any assistance from the Naval Safety Center, please contact us here at [safe-divesalvage@navy.mil](mailto:safe-divesalvage@navy.mil) or 757-444-3520 ext. 7837. We have a lot going on in the world of safety, so pay close attention and stay tuned.

V/R

LT William R. Cooper

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## Welcome Aboard



### **CWO4 Robert Cassels**

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I am CWO4 Robert Cassels and have been checked on board the Naval Safety Center since the end of June. I reported here from EOD Expeditionary Support Unit Two.

For those of you who may be wondering; I graduated as a Second Class Diver from NAVPHIBSCOL Coronado in 1984. Since then I have been to many different diving commands and have seen a lot of changes. When I first learned to dive we were using the Mk-1 Mod 0, Jack Brown and the Mk-12 was just introduced to the fleet. Now, the equipment is smaller, lighter, more reliable but more complicated to work on.

One thing that hasn't changed over the years is the quality of people that we get as divers. I have witnessed this first hand on the Diving Safety Surveys I have already been on. I requested to come to the Naval Safety Center, getting the opportunity to travel to the various diving commands, and seeing what you do and more importantly; how professionally you do it on a daily basis. I am looking forward to working with all of you.

HOOYAH!



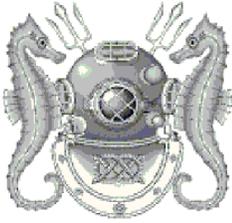
### **Chief Damage Controlman Chris Keplinger United States Coast Guard Dive Program Liaison**

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I'm DCC Chris Keplinger and I reported onboard the Naval Safety Center this past June. I am coming from the Naval Dive and Salvage Training Center and am a new addition the Naval Safety Center. Under a memorandum of agreement between the Navy and Coast Guard, the Naval Safety Center will assist the USCG with our annual Diving Operational Readiness Assessments to better ensure safety and readiness of our divers and the dive program overall.

I'm very excited to be at the Naval Safety Center and I'm looking forward to visiting all the unique diving commands across the Department of Defense (DoD). My goal is to learn from you and bring those experiences and expertise back to the Coast Guard so we can integrate and improve our practices. If you have any questions or suggestions about our program, please contact me at the above e-mail. Thank you.

Semper Paratus!



## Master Diver's Corner

NDCM (MDV/DSW/EXW/SW) Kent "Rock" Robarts

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My deep sea brothers and sisters,

During my eighteen months at the Naval Safety Center I have notice a lot of common mistakes on the re-entry control (REC) packages I have reviewed throughout the fleet. The majority of the mistakes are administrative and not the work being completed at the deck-plate level. Although the problems do not necessarily affect the quality of work being conducted, they can be the difference between a "painless" Diver's Life Support System (DLSS) re-certification or a delay in certifying your DLSS because the System Certification Authority (SCA) issued discrepancy cards to your command.

We had a meeting with both SCAs (NAVSEA and NAVFAC) and they are also seeing a lot of administrative errors during their certification visits. In my opinion, there are several root causes for the errors on REC packages. Since the establishment of the Navy Diver (ND) rating, there are limited number of fleet returnees in the diving community that bring invaluable fleet experience, the majority of DLSS maintenance is being conducted by civilian contractors, and the majority of Navy Diver Quality Assurance expertise has retired or our very senior personnel are in non-operational billets.

Below are some the mistakes I have been seeing throughout the fleet.

1. **Not getting permission from the SCA prior to changing out a serialized component listed in the pre-survey outline booklet (PSOB), and not making the change to the PSOB.** This is most common major discrepancy I find. When I talk to the command about the discrepancy, they are under misconception that as long as they make the change on the PSOB prior to their re-certification, they are in compliance with maintaining certification requirements. While it is true that you need to update your PSOB prior to re-certification, that does not alleviate the requirement to get permission from the SCA prior to changing out a serialized component with your Scope of Certification (SOC) IAW NAVSEA SS521-AA-MAN-010 (MAN-10), U.S. Navy Diving and Manned Hyperbaric Systems Safety Certification Manual. Additionally, commands forget to make the changes in their PSOB prior to re-certification and this can lead to re-work and delay in your re-certification.
2. **Commands not conducting the required tests or the work being conducting on the certified DLSS.** A good example of this is commands not conducting drop tests on their DLSS after they had the system's flasks removed, hydrostatically tested and reinstalled. IAW MAN-10, a system drop is required to be conducted and documented on a Test and Inspection Form for objective quality evidence (OQE). When writing a REC package, ensure you refer to the MAN-10 for the required OQE.
3. **Commands using wrong forms to document OQE.** Commands are using the generic test and inspection form to document all of their OQE. There are specific forms documenting the majority of the required OQE. The generic form should be used only to document OQE not covered by the specific testing forms contained in MAN-10.
4. **Not having the required OQE for the component/software being installed.** When installing a new component or software in a certified DLSS ensure you have the cleaning documentation IAW MIL-STD-1622 or MIL-STD-1330, as appropriate, and any other testing documentation required for a new component, for example, a seat tightness test for a new valve installed.
5. **Listing the component being removed as part of the test and work boundaries.** This discrepancy really shows the degradation of DLSS quality assurance knowledge in the diving community: these REC packages were signed by a MDV and Diving Officer. Test and work boundaries isolate the component for safety and to maintain cleanliness and do not include the component. Additionally, this is a violation of the *Tag-out Users Manual* (TUM): you can not remove a component from a system that has a red tag on it.

When you are writing a REC package, ensure you refer to MAN-10, not just the QA forms, and if you have any questions, contact your appropriate System Certification Authority for guidance.

NDCM(MDV/DSW/EXW/SW) Kent "Rock" Robarts  
Naval Safety Center Master Diver

# First CVN 68 Class In Water Replacement Of Stave Bearings

## CWO3 Charles Senter SWRMC Code 360

Southwest Regional Maintenance Center (SWRMC), Puget Sound Naval Shipyard (PSNS), and Phoenix International Divers recently completed the first ever waterborne replacement of stave bearings on a CVN 68 class carrier, the USS Ronald Reagan (CVN 76). Divers lead by SWRMC Master Divers, Brian Pratschner and Justin Scarborough, working around the clock port and starboard shifts with dive teams made of SWRMC and PSNS personnel to complete this rigging intensive repair in eight days allowing the USS Ronald Reagan to meet all operational commitments and saved COMNAVAIRFOR (CNAF) over 10 million dollars in emergent dry dock cost fees.

With NAVSEA 00C5 engineer (Justin Pollack) providing the Formal Work Procedure and acting a liaison between COMNAVAIRFOR, SWRMC, PSNS, Phoenix International Divers and NAVSEA 00C5, this diverse team of divers partnered to



conduct some of the most technically challenging waterborne repairs devised in the underwater ship husbandry (UWSH) repair business.

Damage to the USS Ronald Reagan's number one shaft main strut stave bearing was discovered during routine intermediate hull cleaning by the NAVSEA 00C hull cleaning contractor Seaward Marine Services. SWRMC Divers conducted a follow on waterborne inspection, cleaning the staves with a 10,000 PSI hydro-lance and bore scoping the number one main strut stave bearing which revealed extensive damage to bearing material at the six o'clock position.

SWRMC divers were then tasked to inspect all USS Ronald Reagan stave bearings and channels to ensure they were not damaged as well. This required extensive cleaning of the stave channels with a hydro lance and use of a bore scope and outland U/W camera system to document the condition of the main, intermediate and stern tube stave bearing material. No additional damage was noted.

CNAF, NAVSEA, and PSNS engineers made the call to repair the damage stave bearing on number one shaft waterborne by removing the main strut fairwater and rope guard and tasked NAVSEA 00C5 to develop a waterborne procedure to remove the damaged stave bearing shells safely from the main strut, refurbish the stave shells, and reinstall in a timely manner so the ship could sail on schedule.

Within hours, NAVSEA UWSH equipment was loaded safely by GPC mechanics and trucked from various ESSM warehouses to NAVBASE Coronado, Naval Air Station North Island to support this complex waterborne UWSH repair. Two dive teams from SWRMC (Alpha lead by dive supervisor ND1 Ron Naperala and Delta lead by ND1 Ken McCollum) were stood up to support a 24 hour, 7 day a week dive plan. Phoenix International Divers were mobilized under the direction of Justin Pollack to support the wet cutting and welding aspect of this repair effort. Phoenix's dive supervisor, Mr. Mike Stralzko, lead the Phoenix dive effort (removing and reinstalling the number one shaft rope guard, fairwater, and welding three lifting pad eyes to support rigging to successfully accomplishing this task partnered with SWRMC and PSNS divers who had surged to San Diego to support this repair effort were lead by Mr. Rob Miller from Code 760. With heavy NAVSEA rigging gear installed and the stave bearing shell retaining ring removed, the upper stave shell was pulled out using a unique rigging configuration developed by Justin Pollack. Two 50-ton hydraulic chain falls then were rigged into the ship's propeller lifting tunnels and calculations developed to lift the

35-ton propeller and shaft safely off the main strut barrel housing to loosen the lower stave shell allowing installed rigging to pull and rotate the lower stave shell to the 12-o'clock position for removal to the surface.



Once both stave bearing shells were brought up to the surface, they were delivered to PSNS for refurbishment. Upon completion of the stave shell inspection and installation of new bearings, SWRMC and PSNS divers commenced reinstallation of the lower and upper stave shells back into the main strut barrel housing. This was accomplished by the night crew, who reinstalled the retaining ring, fasteners, lock wired and de-rigged the work area in preparation for Phoenix divers to wet weld the rope guard and fairwater back onto the strut barrel housing. Northrop Grumman mechanics machined the fairwater with a metal ring for divers to wet weld to the main strut barrel housing and re-manufactured a new rope guard in which Phoenix welders made ready for a waterborne wet weld installation.

SWRMC, PSNS and Phoenix divers began demobilizing NAVSEA equipment. In all this first-ever waterborne repair of the USS Ronald Regan stave

bearings took eight days from start to finish and is a testament to the teamwork of multiple Navy diving commands and contractors to come together in rapid fashion to fix a nuclear air craft carrier bound for wartime deployment in support of this country and the global war on terrorism.



## Cold Water Diving

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As the winter months approach and temperatures drop divers have to take some extra precautions before entering the water. The most important step divers can take is proper regulator management. When water temperatures dip below 37 degrees, regulators need to remain dry before entering the water. So what does this mean? Divers should not make multiple dives with the same regulator in one day. Other precautions that need to be understood by divers is pre-breathing or purging regulators in cold environments could lead to a second-stage free flow. All equipment set up and pre dive checks should be conducted in a warm shelter or inside the dive boat.



Divers from the U.S. Navy, U.S. Coast Guard, and Canadian Forces teamed up this summer above the Arctic Circle for Exercise NATSIQ 2010. Together, the divers successfully conducted more than 25 dives in 30 degree water. Utilizing proper regulator management, these divers completed a successful mission with zero regulator malfunctions.



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Are you reporting all on-duty diving mishaps that occur at your command? You're required to in accordance with the Navy & Marine Corps Mishap Safety Investigation, Reporting and Record Keeping Manual, OPNAV Instruction 5102.1D and Marine Corps Order P5102.1B. During fiscal year 2010, we received 14 diving mishap reports for the following injuries.

Caustic Cocktail	3
Type II DCS	2
POIS (pnemo/mediastinal)	5
AGE	4
<b>TOTAL</b>	<b>14</b>

All on-duty diving cases involving the central nervous system (CNS), oxygen toxicity, pulmonary over inflation syndrome (POIS), or hyperbaric treatment is required to be reported through WESS. When submitting a mishap report, the goal should be to clearly identify who, what, when, where, how and why of the mishap and associated hazards. Upon receiving the mishap report, Naval Safety Center personnel conduct a quality-assurance review of the data submitted and, when required, contact the command for further information or resolution in conflicting data. It is imperative that the command respond to the Naval Safety Center in a timely manner so that the information can be stored in the consolidated database. Of the 14 reports submitted last year, we have five reports sitting in a queue waiting on further information.

In most cases, a well written narrative can be used by the Naval Safety Center personnel to fill in any holes found in the prompted pull down areas of the report, for example diving equipment used and table/schedule areas. We've heard your complaints that the length in questioning for the diving WESS report is overly extensive. It's important to be complete for NEDU, NAVSEA, and us to track trends accurately and prevent mishaps. A revision to WESS is in development and hopefully will produce a more user-friendly mishap report.

Commands have up to 30 days to submit a report after the date of the mishap and for diving mishaps this is plenty of time to gather all of the information required and write a comprehensive narrative. If the reporting duty is delegated down to the diving supervisor he or she should insure the Master Diver and/or Diving Medical Officer review the information before final submission. This is one of our first questions we ask when we call a command for more information, "Did your MDV review this report?" Not

surprisingly, the commands that read through their reports and conduct a review of the information submitted usually don't get called by us.

Narrative writing provides a concise and descriptive review of events which lead up to, happen during, and occur after a mishap. Paint the picture! Narratives describing the mishap should not contain any names or personal identifiers. Names/rates/ranks/SSN information is only recorded in the personal information area and is always scrubbed from the narrative. Utilize the terms diver, patient or mishap victim instead.

We are not looking for your first attempt at writing a short novel but instead a sensible time line of events and actions taken.

The following page has two examples of diving mishap narratives submitted to the NSC. After reading through them, you'll be able to see the difference between a poorly written narrative and an acceptable written narrative.





# Diving Mishap Narrative Writing



**NDCS (DSW/EXW) Jeffrey Poulin**  
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## Example of a poorly written Diving Mishap Narrative:

SVM COMPLETED 24 HOUR DUTY AS SUBMARINE ENGINEERING DUTY OFFICER AND DID NOT GET ADEQUATE SLEEP OR HYDRATION PRIOR TO GOING ON PLANNED DIVE TRIP WITH FELLOW SHIPMATES. THESE FACTORS LED TO DCS TYPE II REQUIRING TWO TREATMENTS IN HYPERBARIC CHAMBER. ALL APPROPRIATE PPE WAS USED, AND SVM WAS WITHIN PRESCRIBED LIMITS FOR DIVE BEING PERFORMED. QUALIFICATION LEVEL WAS SATISFACTORY. NO PERMANENT INJURIES APPARENT.

The line, “going on a planned dive trip with fellow shipmates,” led us to believe this was an off-duty diving mishap and therefore wouldn’t be include in our DoD diving mishap database but rather in our off-duty area. The requirement is the dive must be conducted on-duty. After contacting the command, we were indeed correct.

There are many missing elements to this mishap narrative which would force anyone reviewing this document to ask a multitude of questions. For example:

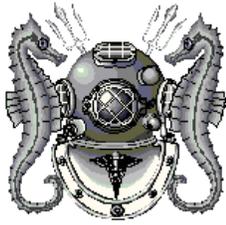
1. What was the diver’s profile, left surface, max depth, left bottom, reached surface...?
2. When was the onset of symptoms and what were the DCS Type II symptoms?
3. Was a neuro conducted and how much time elapsed before treatment?
4. What was the treatment depth and were extensions taken?

This line of questioning could go on and on because we were given very little information.

## Example of a better written Diving Mishap Narrative:

RED AND GREEN DIVER LS AT 0741 ON A SCUBA DIVE TO INSPECT MOORING LINES AND HOTTAP CAPS ON FUEL TANKS C902 AND C905. DIVERS REACHED A MAX DEPTH OF 140FT DURING THE DIVE AND LB FROM 120FT AT THE TOP OF THE DIVE SITE AT 0751 AND RS AT 0755 WITH A SLOW CONTROLLED ASCENT (4MIN). 12 MINUTES AFTER REACHING SURFACE THE DIVING SUPERVISOR NOTICED SOMETHING WRONG WITH GREEN DIVER AND QUESTIONED IF HE WAS OK. GREEN DIVER REPLIED THAT HE WAS HAVING A HARD TIME BREATHING. HIS MAIN COMPLAINT WAS LABORED BREATHING AND PAIN IN HIS CHEST ON A SCALE OF 8 OUT OF 10. TX WAS IMMEDIATELY STARTED BECAUSE A FULL NEURO COULD NOT BE COMPLETED DUE TO THE SEVERITY AND INCREASING AMOUNT OF THE PT’S CHEST PAIN. PT & INSIDE TENDER LS IN THE CHAMBER AT 0810. ON DESCENT PT ALSO COMPLAINED OF TINGLING IN HIS RIGHT LEG FROM HIS KNEE TO ANKLE AND ALSO IN HIS LEFT HAND. DURING DESCENT THE INITIAL PAIN WENT FROM AN 8 TO A 6 AT 30FSW AND A 2 AT 40FSW AND A 1 AT 60FSW. AFTER 1 MIN ON OXYGEN AT 60FSW PT REPORTED NO SYMPTOMS. IDC CORPSMAN WAS LOCKED IN AS INSIDE TENDER TO REVIEW THE PT’S RESPIRATORY SYSTEM, LUNGS WERE CLEAR BILATERALLY. DURING THE 1<sup>ST</sup> EXTENSION AT 60FSW PT STATED SLIGHT RESIDUAL PAIN 1 OUT OF 10 ON HIS RIGHT SIDE LOWER CHEST. A TOTAL OF 2 EXTENSIONS WERE COMPLETED AT 60FSW AND ASCENT TO 30FSW WAS NORMAL. A FULL NEURO WAS COMPLETED PRIOR TO LEAVING 60FSW AND ARRIVING AT 30FSW. AT 30FSW THE PT REPORTED THE RESIDUAL RIGHT LOWER CHEST PAIN WAS COMPLETELY GONE. THE REST OF THE TREATMENT WAS UNEVENTFUL. AFTER TREATMENT A FULL NEURO WAS COMPLETED AND PT WAS FOUND TO BE ASYMPTOMATIC. PT RECEIVED X-RAYS AT MEDICAL FACILITY WHICH SHOWED LUNGS WERE CLEAR.  
DIAGNOSIS: AGE WITH SIMPLE PNEUMOTHORAX

For WESS mishap reporting purposes, a command that submits this narrative would not be getting a call from the Safety Center for more information. You can clearly see how much better it is written in comparison to the first narrative. This is a good guide for you to use in the unfortunate event that you have to submit a WESS mishap report. DIVE SAFE!!!



## Chamber Medical Kits

**HMC (DSW/EXW/FMF) Ron Nading**  
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I wanted to touch upon medications in the primary and secondary chamber medical kits. There are issues with some units unable to get the required medications due to monetary cut backs or the availability of some medications.

The question arises when drugs expire can they still be used and for how long? There are studies that show that expired medications may lose some of their potency. Drug companies pay millions of dollars to have their drugs go through an extensive testing process with the FDA. Secondly, drug companies do not want to be sued. Most medical materials (e.g., drugs, fluids, disinfectant solutions, catheters, sutures, etc.) are imprinted with an expiration date. Beyond this date, the manufacturer does not guarantee the sterility, safety, or stability of the item.

The use of expired materials without justification constitutes inadequate medical care under the Food and Drug Administration. Part of the Hippocratic oath is swearing to practice medicine ethically. There is this urban legend out there that it is OK to pass along medications that are expired. Know this, if your patient gets sick or dies, you will be held accountable. Expiration dates are posted for a reason. It is not because a drug company wants to make money.

There are occasions when medications have been allowed to be extended such as CBR drugs. The DoD/FDA Shelf Life Extension Program (SLEP) is in

place to defer drug replacement costs for date sensitive stockpiles of medical materiel by extending their useful life beyond the manufacturer's original expiration date. DoD/FDA SLEP is only for the management of stockpiled medications (chemical biological radiological nuclear (CBRN), anti-malaria and pandemic influenza) owned by the services or other agencies that have a signed participation agreement.

SLEP system is currently managed by Defense Medical Standardization Board (DMSB) at Fort Detrick, Maryland. Expired drugs are sent through a FDA testing lab for testing to make sure their strengths are viable. Expired medicine in pill and liquid form often changes in color and consistency. Liquids can separate and pills deteriorate over time. These changes are obvious, but sometimes medication appears to be fresh when in fact it has been compromised by time and improper storage such as a medical backpack or pelican case for years or has been subjected to the salt water environment or a decompression chamber.

Bottom line is if the medication is expired get rid of it! FYI, expired medication is a hit on a Naval Safety Center diving survey. If you're missing the medication or it is coming due to expire, plan ahead and have the item on order and DD form 1141 standing by for the surveyor.



## HAZMAT

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The use of hazardous material is part of life in the diving community and the rest of the military. The proper use and storage of hazmat are becoming serious concerns. The Naval Safety Center is making hazmat safety a priority. We have developed a more extensive diving safety survey check list specifically for hazmat. Some of the most common hazmat safety discrepancies that are being noted during surveys include: incompatible hazmat being stored together, hazmat not being properly labeled when it is removed from its original container, and lack of proper housekeeping inside hazmat storage lockers. Download the new hazmat checklist and ensure that your command is being safe.



# Diver In The Spotlight



## ND1 (DSW/SW) Sean Kennedy



ND1 (DSW/SW) Sean Kennedy has the distinction of accumulating the most bottom time of all U.S. Navy Deep Sea Divers from January 2010 to June 2010. Born in Chicago and growing up in Joliet, Illinois, ND1 Kennedy graduated from Joliet Catholic High School and attended Western Montana University. On June 28, 2000 Petty Officer Kennedy enlisted in the Navy as a Hull Maintenance Technician. Upon graduation from HT "A" school, he received orders to the USS Valley Forge (CG-50) in San Diego, California. While onboard, he made a seven-month deployment to the Arabian Gulf in support of Operation Iraqi Freedom from October 2002 to May 2003. In March of 2004, he made a three month counter drug operations deployment to South America. In November of 2004 he graduated from 2<sup>nd</sup> Class Dive School in Panama City, Florida. He received orders to Naval Special Clearance Team One in San Diego. While there, he received a Navy Mammal Handler NEC and qualified as a VSW Viper Clearance Diver. ND1 Kennedy received two Navy and Marine Corps Achievement Medals for mission leadership while stationed at NSCT1. After completing a successful tour there, he received orders to South West Regional Maintenance Center in San Diego. He was assigned to "Alpha" Dive Team supporting aircraft carrier maintenance at Naval Air Station North Island for 6 months until being re-assigned to "Delta" dive team. The Navy's only certified wet weld team. This program includes attending the 16-week super-welder school, which ND1 graduated earning the 4955 NEC. ND1 has established himself as one of SWRMC's go-to-guys for the underwater weld program during his wet weld training and certification process.

becoming a

qualified/certified wet welder takes determination and commitment that accrues remarkable amounts of bottom time. ND1 Kennedy's drive and desire to succeed are a true testament to this recognition. HOO-YAH!

The Naval Safety Center would like to congratulate ND1 Kennedy for conducting 49 approved dives from January 2010 to June 2010 and accumulating a total bottom time of:

### 5 Days 15 Hours & 54 Minutes !!

Each issue, we would like to acknowledge the Navy diver with the most bottom time reported in the Dive Jump Reporting System (DJRS) for the last six months. This is not to discount our civilian counterparts who are accumulating an exceptional amount of bottom time themselves.

HOO-YAH! Dive Safe





# CHARGING SYSTEM RELIEF VALVES

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A common trend that the Naval Safety Center has come across during Diving Safety Surveys has to do with relief valves in charging systems. The issue is that the relief valves are set to the incorrect pressure for what is being charged. As you all should know, in accordance with PMS, a relief valve is required to be set 108-112% of the working pressure of the system or bottle being jammed. So for you out there in the diving world that are upgrading from aluminum 80 to aluminum 100 scuba bottles, you need to ensure that your charging system is also upgraded. Also, some diving commands have unique missions that require them to charge different systems or bottles of various working pressures. If your command is using the same air compressor to charge all of your different diving systems or bottles, recommend setting the final stage relief valve on your air compressor to the highest working pressure of what you will be charging. The charging whip(s) need to have an in line relief valve that is set properly for the working pressure of what is being charged. This may mean that you have several charging whips with different relief valves or a charging whip with interchangeable relief valves. Pay special attention to the relief valve settings you are asking for when you have them tested by outside companies or IMF. Unless you tell them specifically what you want your relief valves to be set at, they may set them to manufacturer's specifications that usually are not in accordance with the 108-112% of the working pressure that is required by PMS.



## Top 20 Commands by Total Bottom Time

FY 2010

Rpt No:DV-301

10/01/2009 to 09/30/2010

Run Date: 29-Nov-2010

TBT	Total	UIC	Command Name	in minutes	Dive
775,968	13,036	N0610A	NAVDIVESALVTRACEN PANAMAN CITY, FL.		
404,242	8,930	N49746	NAVAL SPECIAL WARFARE BASIC TRNG		
272,069	2,838	N41150	NORFOLK NAVAL SHIPYARD AND IMF		
256,452	3,686	FFGS70	AF COMBAT DIVE SCHOOL (NDSTC)		
255,813	4,633	W1E0C0	SPECIAL FORCES UNDERWATER OPS SCHOOL		
248,047	2,243	N39590	NSWG TWO TRADET		
234,598	2,565	N4523A	PUGET SOUND NAVAL SHIPYARD AND IMF		
208,897	1,824	N55236	SOUTHWEST RMC SAN DIEGO, CA.		
136,852	1,364	N08973	SDV TEAM ONE		
113,682	1,022	N39589	NSWG ONE TRADET		
110,852	888	N68316	NAVSUBSUPPFAC NEW LONDON, CT.		
85,880	2,599	N00750	NAVSUBSCHOLGROTON		
79,985	594	N45255	USS FRANK CABLE (AS-40).		
73,959	1,017	N0463A	NAVAL EXPERIMENTAL DIVING UNIT		
68,652	1,800	N42270	MDSU ONE		
63,276	879	N44466	TRIREFFAC KINGS BAY, GA.		
62,170	715	N3592	SEAL TEAM TEN		
58,794	2,239	N2838	MDSU TWO		
57,516	683	N62758	NAVSHIPREPFAC JRMC YOKOSUKA, JAPAN		



## Top 6 Diving Safety Survey Discrepancies



### Submarines:

Question I.D. #	Percentage of Units receiving discrepancy	Discrepancy
Administration #1. A4B3	42.9%	Command is not submitting DJRS information to the Naval Safety Center in a timely manner.
#2. A1D1	38.1%	Command divers are not conducting the minimum number of dives every six months in order to maintain their qualifications.
SCUBA #3. A1N0	38.1%	Up to date manufacturer tech manuals are not available for all SCUBA equipment.
Training #4. A1X0	35.0%	Diver's training plan does not include emergency response drills.
Administration #5. A2J0	28.6%	Command does not have a complete file of AIG-239 effective diving advisory messages available and accessible to all divers.

### All Other DoD Dive Lockers:

Question I.D. #	Percentage of Units receiving discrepancy	Discrepancy
Air Systems & Stowage #1. A1I0 & A1L0	20.8%	Applicable Filter Housings & Moisture Separators not tested and tagged appropriately.
Administration #2. A1L0	19.6%	PMS has not been implemented for all diving equipment.
#3. A1G1	15.8%	Re-entry control procedures are not implemented or used correctly.
#4. A1J0	11.8%	Tag-out log not in effect. Tag-out users manual not available. Audits are not completed.
#5. A1D1	11.3%	Command divers are not conducting the minimum number of dives every six months in order to maintain their qualifications.