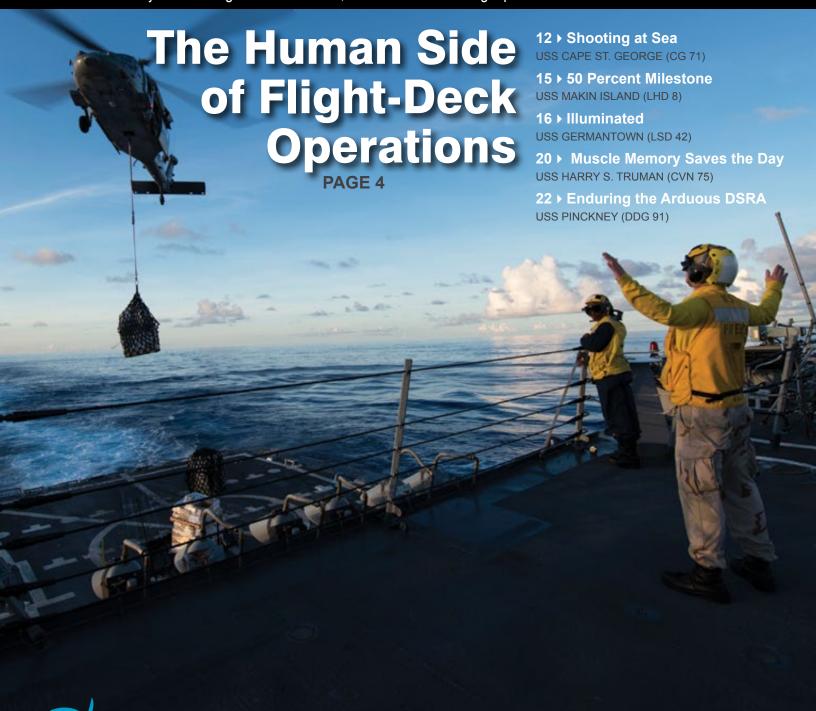
The Naval Safety Center Magazine for Surface, Submarine and Diving Operations

Winter 2015





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Public Affairs



ON THE COVER: CS2 Brian McEvoy (foreground) directs an SH-60B Seahawk helicopter from the "Island Knights" of Helicopter Anti-Submarine Squadron (HSL-49) as it delivers supplies to the flight deck of the Arleigh-Burke-class guided missle destroyer USS PREBLE (DDG 88) during a vertical replenishment. (Photo by MC3 Paul Kelly)



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Sea Compass Turns Five

s we move forward to 2016, let's take a look at some of this year's highlights. Sea Compass celebrated its fifth-year anniversary and we're still going strong! Our distribution is steady at more than 7,000 copies per issue with a distribution list of more than 700 addresses. Thank you for your continued support and appreciation for risk-management resources and lessons-learned stories.

We did face a challenge early this year when the U.S. Postal Service made changes to the FPO mailing process. If you've missed an issue, we apologize. We make every effort to keep your mailing addresses up to date, but the greatest challenge we face is the deployment cycle. You can help us by verifying your homeport address (street name or PO box). We also need to know when you deploy; send us your FPO address (with box number and unit number). Visit our magazine landing page (http://www.public.navy.mil/navsafecen/pages/media/subscription.aspx) to fill out an online subscription form.

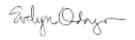
In other news, you'll find this issue full of information and resources about improving work performance and shipboard safety ("The Human Side of Flight-Deck Operations" and "Illuminated"), enhancing mission readiness ("Plunge Into the Next Century"), updating instructions ("Shooting at Sea"), and nurturing a safety culture that identifies and mitigates risks ("Quick Disconnects," "50 Percent Milestone," "Enduring the Arduous DSRA," and "Germantown Embarks Safety").

In every issue, we feature articles that promote time-critical risk management on the job. On Page 20, you'll read about how "Muscle Memory Saves the Day," where training and decision-making skills help prevent a possible threat.

For your off-duty days, we've provided you an exhilirating story about a cliff rescue along the shores of Guam. If you will be on the road in the winter months, take note of the roadway safety tips and resources addressing the "fatal four" contributing factors to car wrecks.

The back page of this issue invites you to share your best practices for promoting safety awareness. Send in your best safety standdown story or photo essay before May 9, 2016 and we'll consider it for the fall-winter issue. Check our website for more information.

I hope to hear from you again in the new year!



We want to hear from you!

We do our best to cover stories, articles and information that may be helpful or necessary to manage your safety program and/or promote safety awareness on and off duty. If you have a question or opinion about anything you read in *Sea Compass*, send us your comments.

Calling All Public Affairs and MCs

We welcome public affairs and mass communication specialists as fleet correspondents or guest editors. We want to hear about your ship's safety programs, best practices and risk-management success stories. Send your press releases to safe-seacompass@navy.mil.

Letters to the Editor

We want to hear what you think about something you read in *Sea Compass* magazine. Letters must include your name, email or phone number (for verification). Letters may be published anonymously. Write to evelyn. odango@navy.mil.

BZs and Attaboys

Nominate an individual or a group from your command/unit for a job well done. Write a brief narrative (500 words) including name(s) of the nominee(s) and reason for the nomination. Please include your name and contact information.

Lessons Learned and Safety Culture

Help us preserve combat readiness and save lives by sharing your lessons-learned story in *Sea Compass*. Perhaps you've experienced a personal mishap or a nearmiss at work. How did that shape your behavior and/or your command's safety culture? Send articles (450 words minimum,1,500 words maximum) to safe-seacompass@navy.mil.

Submit Seasonal Off-Duty Story

Do you have a story about a mishap or near-miss that occurred while off duty during the warmer days? Send your submission for the spring-summer issue. We'll take any topic as long it demonstrates risk-management and lessons learned.

Submission Guidelines



http://www.public.navy.mil/navsafecen/pages/ media/submissions.aspx



MEDICAL SURVEILLANCE TOOLBOX

OUR MISSION IS TO HELP YOU PRESERVE COMBAT READINESS AND SAVE LIVES.

The "Medical Surveillance Tracking and Reporting" section contains the tools you need for staying abreast of the status of your Medical Surveillance Program. The remaining sections contain training materials and instructions that will help you become familiar with the medical surveillance process. Submit your ideas for content or resources to safe-medsurv@navy.mil.

MEDICAL SURVEILLANCE TRACKING AND REPORTING

- NAVADMIN 213/12 Baseline Medical Surveillance Program Tracking and Reporting (revised 2/15)
- 2014 medical surveillance exam completion report spreadsheet (Excel)
- Medical surveillance exam completion report spreadsheet instructions (PowerPoint)
- Medical surveillance tracking and reporting FAQs
- Introduction to surveillance and certification exams
- Navy certification examination guidance matrix ("Specialty Examinations")
- Navy safety and supervisor's guide to medical surveillance
- Supervisor's medical surveillance and certification exam referral form (SECNAV 5100/1)
- Respirator use questionnaire (OPNAV 5100/35)

RESPIRATORY PROTECTION

- Cartridge change-out
- · Compressed breathing air
- Generic standard operating procedures
- Respiratory checklist
- · Respirator standard operating procedures

TRAINING RESOURCES

- Medical Surveillance Program process
- Afloat Hearing Conservation Program management training guide
- Sample Afloat Medical Surveillance Program management
- Medical surveillance and certification exams for Sailors assigned to ships
- Safety Training Gouge #17: Medical Surveillance
- Medical surveillance presentation from the 22nd Annual SOH Professional Development Conference

INSTRUCTIONS

- DoDI 6055.1, DoD Safety and Occupational Health (SOH) Program
- DoDI 6055.05, Occupational and Environmental Health (OFH)
- DoDI 6055.12, Hearing Conservation Program (HCP)
- OPNAVINST 5100.19, Navy Safety and Occupational Health (SOH) Program Manual for Forces Afloat
- OPNAVINST 5100.23, Navy Safety and Occupational Health Program
- Navy Unit Safety Self-Assessment NAVADMIN 048/10 (current reference)
- NMCPHC-TM OM 6260, Medical Surveillance Procedures Manual and Medical Matrix

Medical Surveillance Toolbox Online

http://www.public.navy.mil/navsafecen/pages/osh/medsurv.aspx





The Human Side of Flight-Deck Operations

By ENS Abigail Meyer



Crew rest, personal stress, perceived pressure, physical fitness, nourishment – all these matter when working aboard CruDes ships at sea.

erving on a cruiser or destroyer (CruDes) flight-deck team means danger and excitement. For many, like the Sailors aboard USS PREBLE (DDG 88), it also means a jampacked schedule and the potential for little to no sleep for long periods.

Human factors such as inadequate rest, personal stress, perceived pressure, work attitude, physical fitness, and nourishment issues can creep up unnoticed. If not mitigated, these can significantly impact flight-deck operations and safety culture. Naval Safety Center data shows that over 80 percent of Navy and Marine Corps mishaps are attributed to human error.

A deployed CruDes ship with an embarked helicopter detachment is entitled one flight-deck crew. However, when operating with a strike group, the ship will typically be manned for flight quarters throughout the day and night. This manning supports hot pumps, deck landing qualifications, functional check flights, and passenger transfers to meet mission and unit-level training requirements. If flying during the day, members of the flight deck team are typically expected to return to their regular jobs during breaks. Long periods of sustained operations, combined with normal ship activity, can potentially create significant physical and mental stress.

For CruDes flight-deck team members, adequate rest is sometimes hard to come by. In the galley, culinary specialists prepare meals three times a day with around-the-clock preparations. At any time, they could be called away for more than an hour for flight quarters. Their work oftentimes remains unattended until they return. Boatswain's mates on the flight-deck team can have it even worse. After a two-station underway replenishment (UNREP), members from the UNREP detail can roll directly into a helicopter vertical replenishment as part of the flight-deck team.

At night, the ship is required to do flight operations in support of aircraft carrier escort duties until well past midnight. The next day, each member of the flight deck team can be called to roll from one duty to the next – additional flight operations, small boat operations and damage control or man overboard drill.

Flight operations on a large-deck aircraft carrier (CVN, LHD, LHA) is arduous. The flight-deck crew on an aircraft carrier works tough and long hours. But their job as part of the ship's company is just that: flight operations. On CruDes platforms, being a flight-deck team member is a collateral duty. PREBLE's flight deck team includes personnel from all departments – from the boatswain's mates in operations department to culinary specialists in supply department, to cryptologic



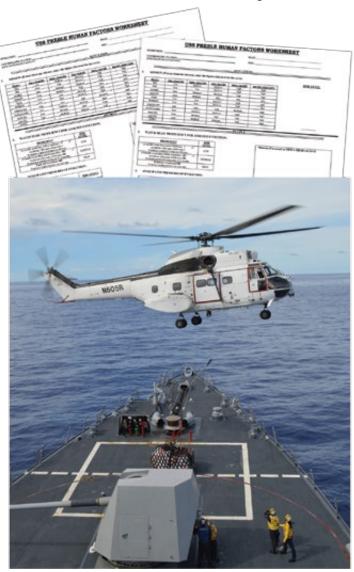
Human factors are the most commonly cited cause for all mishaps, with more than 80 percent of all mishaps attributable to human-factor failures at some level. However, this does not mean that 80 percent of all mishaps are necessarily the fault of the Sailor or Marine. There may be additional layers of causal factors including preconditions, supervisory issues, and/or organizational influences.

— Naval Safety Center

technicians – each with significant work demands on their time.

On CruDes units the individuals piloting our aircraft have mandatory crew rest minimums established by NATOPS. However, the individuals who support them on the flight deck do not. These Sailors may still be tasked to stand other watches, conduct maintenance, and perform other divisional duties outside of scheduled flight hours.

The safety team aboard USS PREBLE is aware that fatigue, personal or work-related stress, work conditions can affect the quality of work and influence a Sailor's attitude. Managing these human factors helps the men and women of PREBLE become more resilient and improve their performance. PREBLE leadership understands that if neglected, these factors may raise safety concerns that could potentially create hazardous conditions and adverse outcomes. That is why PREBLE's safety team maintains awareness of these needs and takes deliberate actions to mitigate risks.



Before every special evolution, the safety team hands out human factors worksheets to identify safety issues and apply operational risk management (ORM) to individual tasks. Every flight-deck crew member must complete the worksheet and communicate their concerns.

Understanding human factors and the potential impact to the watch team is critical to flight operations. PREBLE leadership, safety teams, and all the Sailors aboard strive to nurture a safety culture that promotes risk management. From the top down to the flight deck, everyone evaluates the risk factors before flight-deck operations. If necessary, the evolution is modified by changing personnel, training additional personnel and changing the schedule.

Editor's Note: PREBLE successfully executed its Western Pacific Deployment conducting operations with the USS GEORGE WASHINGTON (CVN 73), USS BONHOMME RICHARD (LHD 6) and USS RONALD REAGAN (CVN 76) strike groups.

ENS Meyer is the first lieutenant and assistant safety officer aboard USS PREBLE (DDG 88).



Using the principles of ORM, our safety team ensures the flight deck crews are not at risk during high intensity or "surge" operating periods by:

- managing the flight deck schedule to avoid surge periods,
- providing temporary relief from primary divisional responsibilities,
- offering "by order" hotplates so Sailors can select healthy options if desired,
- managing crew rest for flight deck crews outside of the normal daily routine, and
- deconflicting the regular and special-evolution watchbills for shipwide evolutions like UNREP, sea-andanchor, and main space fire drills.

Launching and recovering helicopters off a pitching and rolling flight deck 12 feet above sea level is one of the most dangerous evolutions the surface Navy executes. Considerable risks must be mitigated from every angle – the strength and direction of the winds, the tolerated pitch and roll of the ship, and the water over a low-freeboard deck. Leaders implement formal procedures and instructions by ensuring every member of the flight-deck crew completes a human factors worksheet before any special evolution. (Photo by MC3 Alonzo M. Archer)



Requirements for Safety Standdowns



"Is there a DoD or USN requirement for a certain number of safety standdowns per year?"

Submitted by a GS-0018 Safety and Occupational Health Specialist

Naval Safety Center:

Safety standdowns are not required for shore facilities. There is no mention of standdowns in the DoD instructions. The only place standdowns are mentioned in the OPNAVINST 5100.23G is in Appendix A of Chapter 6, Pages 6-A-2 and 6-A-3, "Safety & Occupational Health Topics." Section 2 says, "Cover various topics applicable to employees including mishaps, compensation, MDSs, work procedures, smoking, stress, plans and goals, radiation, and others. The supervisor can provide these at "stand-up" safety meetings at industrial regions or activities, safety standdowns or through routed handouts and publications in offices. Formal classroom training is not required; however, where meetings or informal classroom training are conducted, document training by roster with subject, date, instructor and attendees; electronic media can be used to document such training. For non-industrial (office) regions or activities, or personnel, the supervisor should use monthly or periodic "captain's call" or other meetings or methods to distribute information to promote safety."

Standdowns are required for afloat units. Per OPNAVINST 5100.19E Vol 1, A0503, "SOH Training Requirements and Responsibilities," Section F: "At a minimum, commands shall conduct one safety standdown per year. Additional safety standdowns may be warranted at the discretion of the commanding officer."



The Navy has acquired the Diver 6 telemetry system, which will allow dive supervisors to keep better track of divers who perform critical dives.

Plunge Into the NCXIII

Century

By MC2 Benjamin Wooddy

Without Diver 6, submerged divers themselves provide realtime information to supervisors. EOD2 Ryan Bejar, assigned to Commander, Task Group (CTG) 56.1, signals to his fellow diver after a pier survey of the Royal Jordanian Naval Force Base in preparation of Eager Lion 2015. (Photo by MC2 Arthurgwain L. Marquez)

he Navy celebrated 2015 as the "Year of the Military Diver," marking 100 years since the Mark V diving helmet was first developed. Mark V became the cornerstone piece of equipment for the community for more than 65 years.

Though current divers no longer wear the iconic helmet, many other facets of diving have remained the same. With the recent acquisition of the Diver 6 telemetry system, Navy diving is poised to embark on its next century.

"We [have been] testing the first generation of diver telemetry," said Chief Warrant Officer Coy Everage, assigned to Explosive Ordnance Disposal, Group 2. "It tells us a diver's location, diver's depth, diver's air pressure, breathing rate and how long they have left to breathe based on the depth."

The Diver 6 system will allow dive supervisors to keep better track of divers once they are submerged. Before Diver 6, supervisors had little knowledge of what was happening underwater during a scuba dive. The new system will provide supervisors real-time information on a submerged diver. Previously,

this information was provided only by the diver themselves.

"If a diver were to get trapped, I can now know exactly where he is," said Everage. "I can point another diver to him. I know how much air he has left while he is doing his regular day-today job, and I know how much air he has left for decompression in an emergency."

JEB Little Creek-Fort Story and Dam Neck Virginia Beach have tested the new system before it can be used for mission-essential dives.

The current procedures that divers and dive supervisors use to communicate with each other do work and have worked for many years, said Everage. It is beneficial for them to have the opportunity to step into a new technological area of diving.

"When our divers go under, the dive supervisors have to rely on the diver to know what is going on," said Everage. "It works, and we've done it for years, but any way we can advance into a new era is a great benefit to our community." St

MC2 Wooddy is with Navy Expeditionary Combat Command public affairs.



Avoiding Dehydration and Decompression Sickness

This article originally appeared in the spring 2015 edition of "Diving Safety Lines."

By HMC (DSW) Dean Del Favero (U.S. Navy Retired)

n diving, high levels of nitrogen are absorbed when a person is exposed to increased pressure. If this excess nitrogen is not metabolized naturally as a diver ascends, it forms bubbles that can lodge in various parts of a diver's body. The term decompression sickness (DCS) describes any one of a variety of ailments caused by absorbed nitrogen coming out of solution in a person's body.

Every diver has a different level of DCS risk. Many risk factors are still not fully understood, but there are a few basic factors that experts agree increase the chance of developing DCS. Common risk factors include high body fat levels, exercising too soon before and after diving, poor fitness level of the diver, older age, illness or injury, alcohol consumption before or after diving, diving in cold water, increased blood carbon dioxide (CO₂) levels, and dehydration.

Dehydration causes less blood to be available for gas exchange which makes it more difficult for the body to off-gas. To demonstrate the increased risk of DCS due to dehydration, the Naval Medical Research Center performed a study on 57 male pigs. The pigs were divided into two groups: 31 hydrated and 26 dehydrated. They were compressed on air to 110 fsw (depth of dive) for 22 hours and brought directly to the surface at a rate of 30 fpm (feet per minute). In the hydrated group, 10 out of 31 developed DCS and four died. In the dehydrated group, 19 out of 26 developed DCS and nine died. Dehydration significantly increased the overall risk of severe DCS and death.

The key to avoiding dehydration and reducing your chances of DCS is prevention. A few ways to prevent dehydration include drinking plenty of clear liquids, avoiding diuretics like alcohol and caffeine products, consuming a healthy vitamin- and mineral-rich diet, avoiding overexertion, and avoiding too much sun exposure. If unsure of your hydration status, check your urine. The color should be light yellow to clear and odor free. If it is dark in color and smells strong, chances are you are dehydrated.

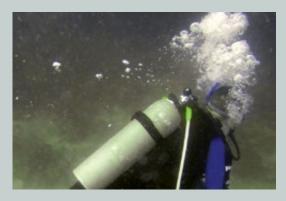
HMC Del Favero worked as a diving medical technician at the Naval Safety Center.



U.S. Naval Base Guam (NBG) is home to the only hyperbaric chamber within the Micronesia Islands that accepts and treats military and civilian patients with dive-related illnesses. Early this year, the NBG dive locker conducted an emergency scenario where a diver went into a cardiac arrest in a hyperbaric environment simulated in a depth of 60 feet of sea water. In this photo, divers assigned to the NBG dive locker monitor the "patient" during a demonstration for patient care due to decompression illness. Signs of DCS and arterial gas embolisms (the clogging of arteries from bubbles in the bloodstream) can be recognized within 10 minutes of reaching the surface after a dive. Symptoms can range from elbow pain or itchy skin to severe neurological damage such as paralysis. Some patients may even become unconscious. (Photo by MC2 Chelsy Alamina)



B2BPMS is your basic guide on how not to fall a victim of complacency. It is a common-sense approach to keeping your ship on the right course. Have you ever taken a shortcut to save time, but instead, cost you and your ship time, resources or people? Share your short story with our readers so they might learn from your experience. Submit your article to safe-seacompass@navy.mil.



Where Did the Air Go?

Use your diving compressor log book to keep maintenance checks up to date

By NDC (DSW/SW) Fred Taylor, Diving Analyst, Naval Safety Center

Adapted from "Diving Safety Lines."

uring diving safety assessments, we see an assortment of compressor makes and models in various configurations and sizes. We usually cross-check the PMS boards for any associated maintenance with objective quality evidence such as air sample logs, relief valves/gauge logs.

The checklist for air and stowage is straightforward. The PMS coverage for all compressors is relatively standardized across the board when it comes down to compressor, drive unit and filter system maintenance. The operational hour meter/log book should also be common to all compressors.

The compressor log can be a very useful tool when tracking situational requirements (or "R-checks") and checks with dual-periodicity codes. When used properly, the compressor log can provide operators with a history of completed maintenance, upcoming checks, and parts ordering. The contents of a compressor log can be tailored by commands as needed but the required entries are frequently covered on a PMS card under the "Notes/Procedures" section.

Trends we are seeing include missing or damaged log books or logs with little or no pertinent tracking information; run time in hours; and systems being charged. Maintenance recordkeeping is also often overlooked.

During on-the-spot training with work center supervisors and maintenance personnel, we go through the compressor maintenance index page (MIP). We emphasize how to track maintenance concurrent with the running hours.

Here is a list of the typical compressor log-book entries:

- -Date
- -Initials

- -Oil Levels
- -Start/Stop Time
- -Total Hours
- -Systems/Cylinder Jammed

When PMS checks with dual-periodicity codes are completed, they should be written in the log book across the columns. The entry acts as a place holder and creates a new starting reference point for that check.

For example: If the "Total Hours" were at 213 when changing the engine oil/lube oil filter (A-1R on MIP 5921/035), the check would be redone in 200 +/- 20 hours of operation or after 413 hours; or within a year for the annual portion of the check.

Maintenance personnel usually claim they never get close to the hourly section of the dual check. But, if you are not tracking these checks properly, you are at best guessing. An example which proves this point better is the 18M-4R for the Bauer P1 filter cartridge when used on a seven-standard cubic foot/minute (SCFM) Bauer portable compressor. The cartridge is good for 35 hours of operation which may easily happen before the 18-month portion of that check.

If you're asking "Where did the air go?" Use your "Systems/Cylinder Jammed" reference if you suspect air contamination. If you don't know which air bank or scuba cylinders were jammed when bad air is suspected, then everything must be considered contaminated and tagged out.

Use your compressor's operational hour meter/log book to your advantage and accurately track your maintenance with it. Stay ahead of maintenance and watch those dual-periodicity checks. Ensure the compressor, which is a critical life-support system, consistently delivers quality air to the scuba tanks.

Shooting How to avoid shipboard collateral damage EA



USS CAPE ST. GEORGE (CG 71) crew installs flight-deck range protective barriers made of pressure-treated wood and galvanized piping.

BY GMC (SW) Edward R. Ballard Photos by FC2 NICHOLAS TRIPP

eing able to conduct small-arms qualifications at sea is a huge advantage to streamlining the Navy's process. As the surface Navy emphasizes the CNO's vision of "Warfighting First," the use of at-sea, small-arms ranges is increasing. With increased usage comes a higher probability of mishaps or near-mishaps.

The crew of USS CAPE ST. GEORGE (CG 71) recently found that flight-deck net frames and steel nets had been damaged during small-arms qualifications. In May 2015, while preparing for flight quarters, the ship's crew discovered dents on one of the port quarter flight-deck net frames as well as torn steel on three of the flight-deck net strands.

The flight deck was immediately self-decertified because the personnel safety barriers had been

compromised. Upon further investigation, the crew determined that the cause of the damage stemmed from poor shooting during a recent small-arms qualification. the ship stood down from small-arms shoots until a more robust plan was in place.

First, the officers and crew of CAPE ST. GEORGE sought the most recent versions of the applicable publications, "Small Arms Training and Qualifications" and "Shipboard Small Arms Ranges: Description and Installation."

Second, the publications were analyzed to determine procedural shortfalls leading to the damaged nets.

Third, the command instruction was updated to ensure controls were in place to avoid repeating the incident.

Lastly, the small arms range was reconstructed to be in compliance with the new instruction.

The "Small Arms Training and Qualification" (OPNAVINST 3591.1F) instruction has several key passages. Compliance with this directive would have reduced the probability of hitting the flight-deck nets. Line coaches are required to ensure compliance with safety procedures and assist individual shooters on the firing line. The ratio of shooters to line coaches varies from 6:1 to 1:1 depending on the course of fire. The range safety officers must verify range orientation in accordance with Enclosure 1 of the instruction. The enclosure specifically discusses firing points and obstacles downrange.

Technical manual SW370-AH-11N-010, which has not been updated in more than 22 years, is not referenced in the OPNAVINST 3591.1F, but is important to safe small-arms-range operation. This manual identifies important aspects of a ship's small-arms range, from target and barrier setup to environmental range limitations. The manual provides enough direction to construct a safe range while allowing for flexibility to account for ship-specific peculiarities. For instance, some cruisers added the MK 38 Mod 2 25mm gun systems on the missile deck - below the ammunition path - after the SW370-AH-11N-010 was published. The electro-optical systems for the Mod 2 are at risk of being in the bullet path.

Although many of the fleet's current ship classes are not included in SW370-AH-11N-010, the manual has pertinent information on barrier and target construction. Creating a command-at-sea small-armsrange instruction, if one hasn't already been written, is highly recommended. This instruction should include guidance on how to construct and maintain the range, taking into consideration specific equipment needing barriers for protection. SW370-AH-11N-010 mandates that the commanding officer annually certify the shipboard range in writing. A template is available in Appendix A of the manual.

After updating and approving the new command instruction, the the ship's crew procured pressuretreated wood, galvanized piping, and hardware to construct coaming barriers, targets, and light barriers in accordance with the instruction. These barriers should be light enough to build and break down, yet sturdy enough to protect ship's equipment. The targets must be steady with the ship when deployed.



A flight-deck net damaged by small-arms projectiles.

Once the barriers are in place, the range safety officer must inspect the range orientation to verify all obstructions in the line of fire are blocked by adequate protection. This includes lowering flight deck nets to their lowest possible level. One of the issues we encountered was that the flight deck nets were lowered, but not to their lowest configuration. To provide an additional layer of safety, the weapons officer conducts a final inspection to ensure the range is set up in accordance with the command instruction and verifies that instructions are on station.

USS CAPE ST. GEORGE's lesson should prevent other ships from repeating their mistake. During your next small-arms quals, observe the evolution from the range setup to the safety walkthrough to the breakdown of the range. Is a robust plan executed? Are updated instructions on station? Are there any obstacles such as flight-deck net frames not protected? **SC**

GMC Ballard is the range safety officer aboard USS CAPE ST. GEORGE (CG 71).

RELATED ARTICLE

[&]quot;Small Arms Training and Qualification" (OPNAVINST 3591.1F),12AUG2009 "Shipboard Small Arms Ranges: Description and Installation" (SW370-AH-11N-010), 01APR1993

Quick Disconnects

By LT Sarah Donaldson, IHO, OHST PHOTOS BY MC3 LAUREN JENNINGS

s the crew of USS NIMITZ (CVN 68) and Puget Sound Naval Shipyard (PSNS) prepared NIMITZ for the big move to the shipyard, we noticed our ship transforming right before our eyes. During this extended planned incremental availability, shops were being relocated to the "mini city" being built in the hangar bay. Crews worked shoulder to shoulder with civilian counterparts. Life onboard was changing; and continued to change every day.

With change sometimes comes uncertainty. Walking through the passageways, and up and down ladder wells, it's apparent that there is no longer that "clearly defined" pathway. Temporary services are strung everywhere. Different types of electrical wiring, ventilation, and pressure hoses hang throughout the ship.

One apparent problem is that a temporary service requires hatches, watertight doors, and scuttles to remain open. This can mean narrow passageways and ladder wells, as well as increased risk of injuries. It can also slow reaction times in case of fire or other casualties.

To mitigate the risks increased by the introduction of temporary services, the shipyard's ship safety officer and deputy project superintendent put a plan in action. Based on lessons learned from the USS MIAMI (SSN 755) fire in 2012, procedures were updated to help ensure fire and other boundaries could still be set, even if they had something running through them.

PSNS' Shop 99 built an instructional tool with examples of their quick-disconnect lines, prominently displayed in one of our three hangar bays. This allowed all of "Team Nimitz" personnel (civilians included) to receive hands-on training on how to properly disconnect the different types of services in case of a casualty. This is critical in the case of damage control boundaries; it limits the areas for a casualty to spread. **SC**

LT Donaldson is the assistant safety officer and industrial hygiene officer for USS NIMITZ (CVN 68). She has earned her occupational health and safety technologist certification from the Board of Certified Safety Professionals and a master of science in occupational safety management from the University of Central Missouri.



The "Mini City" aboard the carrier USS NIMITZ (CVN 68).



Temporary services strung throughout the ship during the carrier's availability.



Shop 99's "Quick Disconnect" board provides detailed information of the quick-disconnect lines.



Civilian contractor Andrew Huffman, the ship manager for National Steel and Shipbuilding Company, explains the current maintenance being conducted on the flight deck of USS MAKIN ISLAND (LHD 8). RDML William J. Galinis, Commander, Navy Regional Maintenance Center (right), tours the ship with the ship's commanding officer, CAPT Jon P. Rodgers (second from right) and members of the safety team. (Photo by MC1 Mathew J. Diendorf)

By MC3 Dennis Grube

SS MAKIN ISLAND (LHD 8) has reached the 50-percent completion marker ahead of schedule for the Chief of Naval Operation's phased maintenance availability (PMA). In August, the amphibious assault ship ship's crew, contractors and leaders appraised its progress at its homeport of Naval Base San Diego.

With extraordinary hazards present during any maintenance period, safety is at the forefront during the PMA cycle. Safety department personnel conduct daily walkthroughs with contractors and weekly zone inspections of all ship spaces. They have safety meetings and pass down information for division safety petty officers to relay to their shipmates.

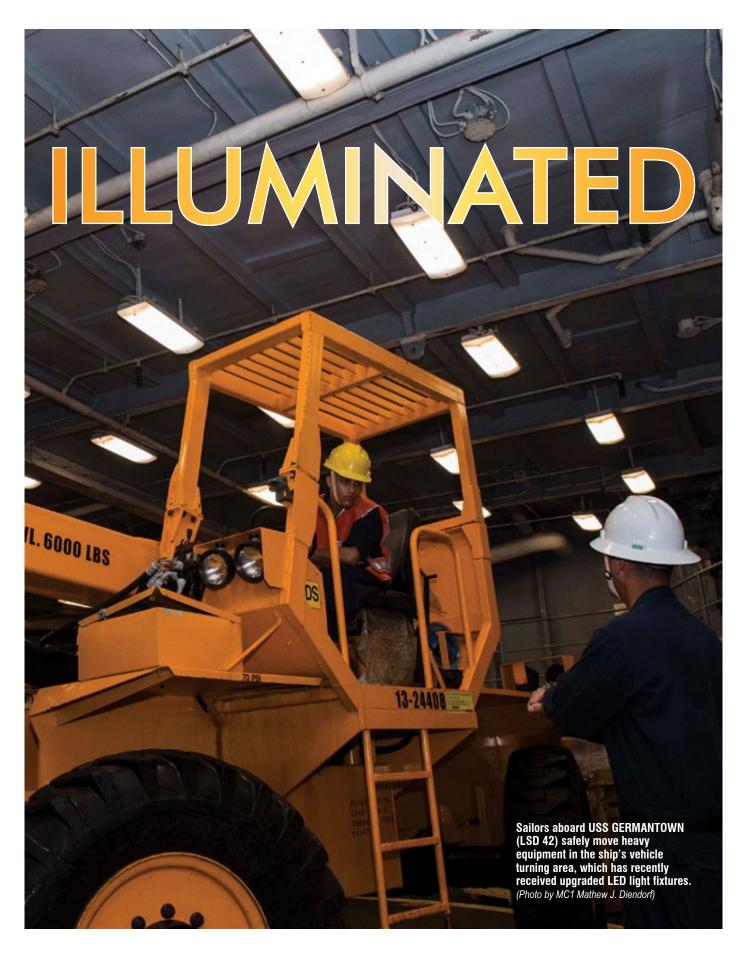
ABH1 Benjamin Odea, one of the ship's safety petty officers, expressed the importance of precaution and being alert to your surroundings while the ship is in an industrial environment.

"During PMA, with many of our systems being upgraded and maintained, there is a lot of equipment being transferred through the ship's hangar bay, the flight deck and on the pier. This makes it that much more important for everyone to keep their head on a swivel," said Odea.

Collaboration between Southwest Regional Maintenance Center, National Steel and Shipbuilding Company contractors and ship's force has been crucial to keeping the ship on its scheduled timeline. Daily huddles and weekly production meetings take place to discuss the progress and plan of action.

Contractors perform maintenance on the ship while select Sailors are assigned to teams that provide support. "Sailors assigned to these teams assist with restoring habitability of the ship by painting the ship, resurfacing decks and upgrading the interior of the ship with safety being the primary focus," said MAKIN ISLAND's PMA coordinator, LCDR Andrew Woolley. SC

MC3 Dennis Grube is with USS MAKIN ISLAND (LHD 8) public



LED lights brighten the way for amphibious ship

By LT Jesse Rond

he crew of USS GERMANTOWN (LSD 42) has something to be excited about: they've received the long-awaited light emitting diode (LED) upgrade to lighting fixtures. During the ship's recent selective restrictive availability, fluorescent lights were replaced with more advanced LED light fixtures and bulbs.

The first phase of this major alteration began with replacing more than 400 fluorescent lights in critical operational areas throughout the ship. The project began in high-traffic areas including engineering spaces, the well deck, vehicle-turning area, and truck tunnel where they would make the most impact on safety. The goal is to convert the entire ship's lighting system to LEDs.

The upgrade required buy-in from all levels, including ship checks and approvals from the planners at Puget Sound Naval Shipyard and from the TYCOM for funding.

"The benefits of the upgrade were immediate and positive," said CDR Gary Harrington, USS GERMANTOWN's commanding officer. "I'm very pleased with the results and the benefits of increased safety and energy conservation."

On the surface, this appeared to be an easy alteration, but it turned out to be no simple task. The initial delivery of parts was delayed, and execution of the work package was in jeopardy. With support from the port engineer, Chris Chilton, and detailed tracking and oversight between the maintenance team and electrical division, the ship's leadership was finally able to schedule the job.

For three weeks, the ship's electricians secured power to spaces so contractors could install the new light fixtures. The new LED lights were mounted first in all four main engineering spaces, aft steering machinery room, and many of the lower decks.



Next was the heavily trafficked amphibious operating areas (well deck, vehicle-turning area, and truck tunnel), which needed significant upgrades. This installation was probably the most critical. With a planned deployment and the impending embarkation of a Special Purpose Marine Air Ground Task Force for the upcoming Cooperation Afloat Readiness and Training (CARAT) deployment, this installation was a high priority.

"The lights in the amphibious operating areas have made a huge impact on safety," says BMCS Billy Brown, the leading chief petty officer in the deck department. "We operate huge vehicles and move around equipment daily," Brown said. "Being able to see everything is critical. We need to see every corner to ensure we don't have any mishaps."

Improvements in safety were not the only consideration. The new lights pay huge dividends in saved labor hours, as well. LED lights stay brighter longer and have a lifespan of up to seven years, much longer than the one-to-two-year lifespan of fluorescent bulbs. The LED lights do not use electrical starters and ballasts; these two components used in fluorescent lights fail frequently and require constant replacement.

"With fluorescent bulbs, we had to electrically isolate an entire space just to replace a starter or ballast," says Electrician's Mate Senior Chief Steven Couey, the engineering department leading chief petty officer. "LED lights don't require the same isolation. It was a significant impact on workers in the division when someone had to fix light fixtures."

The amphibious operating areas were especially challenging. They have extremely high overheads, and the deck areas have heavy traffic. Simply accessing the lights needing replacement is a job in itself, often requiring de-confliction to prevent interfering with routine events.

"Many lights, such as in the well deck, truck tunnel, and vehicle-turning area, require scaffolding or a manlift just to access," says LTJG Ashley Sparks, the electrical division officer. "Decreasing the number of times Sailors must access these lights means less risk to them of falls, trips, or scaffolding failure."

Another negative about the difficult-to-access fluorescent bulbs is their fragility. These bulbs are made of thin, fragile glass. When the bulbs fail, replacement is often delayed until there are enough of them to justify installing scaffolding or using a lift. They require very careful removal and proper disposal. This means accepting slowly deteriorating safety conditions until it is favorable to replace. With the increased LED lifespan, the very few that do go out can simply be replaced at more routine times, such as when scaffolding is already installed for other work such as cleaning and preservation.

LED bulbs are also environment-friendly. While burnt out fluorescent bulbs are considered hazardous material (hazmat), LED lights are not. This puts less strain on the ship's hazmat program that has to store the fluorescent bulbs until they can be disposed of in port.

Although the initial cost of installation and the new LED bulbs are quite high, USS GERMANTOWN found that the long-term savings quickly add up. The savings aren't just in labor hours but also in decreased electrical consumption. For example, while the old incandescent light fixtures can require as much as 110 watts. Fluorescents require as much as 51 watts. LED fixtures range from a meager 5 to 50 watts. Less electrical drain also means less heat production, which helps drive down air conditioning costs.

With what started as a single overhaul job blossomed into a major upgrade. The benefits of the LED light installation are far-reaching throughout the ship and are dramatically affecting crew safety, work efficiency, and environmental concerns. Several embarks familiar with the LSD-class have even commented specifically on the significant improvement in lighting in the vehicle operating areas.

The lighting upgrade may seem quite simple on the outside, but in reality, it has illuminated the ship's dedication to continuously advance shipboard safety.

LT Rond is the assistant safety officer aboard USS GERMAN-TOWN (LSD 42). His article, "USS GERMANTOWN Sets the Bar in Safety," appeared in the 2014 ORM issue of Sea Compass.

RELATED ARTICLES

"Seeing the Light: Shipboard LEDs," Navy Live Blog

http://navylive.dodlive.mil/2014/10/02/seeing-the-light-shipboard-leds/

"SECNAV Directs Navy to Expand Use of LEDs," Navy News Service

http://www.navy.mil/submit/display.asp?story_id=86532



Time-Critical Risk Management

Because conditions can change with little or no warning, being ready allows you to manage that change and minimize risks associated with it.

Experience is the result of all learning events.

The ABCD Model provides a common language and structure for a measured response when an individual, team or crew is executing a routine task or when they are under duress from a more complex situation resulting from additive conditions, crew factors, or task loading. Training to the ABCD Model will embed a set of patterns that will help personnel recognize and recall a set of actions to counter risk even when distracted. This simple and easy-to-remember mnemonic provides individuals with a means to evaluate risks and formulate mitigation strategies on-the-run and can easily be applied in both on- and off-duty situations.



- A Assess the situation.
- B Balance resources.
- C Communicate to others.
- D Do and Debrief the event.

About the photo: A Sailor assigned to the Gold crew of the Ohio-class ballistic-missile submarine USS NEVADA (SSBN 733) makes preparations as the submarine returns to Naval Base Kitsap-Bangor following a routine strategic deterrence mission. (Photo by MC2 Amanda R. Gray)

Muscle Memory Saves the Day

Story and photos by MC3 Mason Gillan

It was a typical day at sea with roaring waves and ocean breezes. The Sailors aboard USS HARRY S. TRUMAN (CVN 75) worked diligently. Then something unforeseen tested their ability to make quick decisions.

That day's man-overboard drill was like any other training exercise. YNCS R. O. Davidson, TRUMAN's search-and-rescue swimmer, said the exercise was going smoothly. The crew noticed a snag in the line used to secure the small rigid inflatable boat (RIB) to the ship to prevent it from drifting. As the waves grew, it became more difficult to secure the lines.

The Knife

BMC J. E. Karus (foreground) reaches to cut a line caught in the engine of the RHIB alongside the aircraft carrier USS HARRY S. TRUMAN (CVN 75) after completing a man-overboard drill. Inset photo: Sailors return to the aircraft carrier TRUMAN after successfully retrieving "Oscar" and completing their mission.



"As we came alongside the ship, we attached ourselves to the first line, which is normal procedure," said Davidson. "Once that happened, we noticed the line was not attached correctly."

Before the crew could finish securing the RIB back to the ship, the waves took a turn for the worse and threw the RIB off course.

"While we were situating the line and getting a better placement, we started getting slack in it," said Davidson. "The next thing I realized was that a wave was pushing us onto the line. From there, the wave receded and the slack tightened underneath the RIB."

BMC J. E. Karus, the RIB boat officer, immediately rushed to the line, pulled out his knife and slashed it, ending the possible threat.

"If we hadn't cut the line, the RIB could have flipped over and we would have had a real situation on our hands," said Karus. "I grabbed my knife as quickly as I could and did what I had to do."

But the threat was far from over. Karus said as soon as the boat was safe from the initial hazard, the boat quickly turned right causing another line to be caught in the propellers. This time, the crew was able to cut the line from both ends and safely move the RIB away from the ship. After a few minutes to reset, the crew successfully connected back to the ship and returned aboard.

Even with the complications the crew was able to complete their mission and bring "Oscar," a training mannequin, back to the ship safely. Their muscle memory gained from extensive [risk management] training saved these Sailors from what could have been a disaster.

"Although we base these exercises on normal situations, it's through training we make sure we are better," said Davidson. "We want these evolutions to go as smoothly as possible and the way to accomplish that is through training."

Karus said accidents like this could happen even if the steps to ensure safety are followed. He made it clear that it was not anyone's fault and it was a learning experience for everyone involved.

"The biggest takeaway from this is that in a dynamic environment, where anything can happen, you must always be aware of your surroundings," said Karus. "No matter how many times you've done something, always be alert."

MC3 Gillan works in TRUMAN's public affairs office.

ENDURING THE ARDUOUS

Story and photos by ENS Kellie Hall

they may envision having adventures with the rain and wind in their teeth as they sail the high seas, intense operations searching for threats in the Middle East, or a deployment around the world to experience life beyond their state borders.

For the Sailors of USS PINCKNEY (DDG 91), their experience over this past year was far from exciting. Instead of rain and wind, Sailors battled cables and wires grazing the tops of their hard hats. Intense operations in the Middle East were just an imagination while Sailors operated cranes to move heavy pallets of equipment on and off the ship. The monotonous environment of the BAE Shipyard had kept Sailors from seeing breathtaking views across the horizon.

The extensive 11-month dry dock selected restricted availability (DSRA) period was highly uncommon. Besides the absence of underway time and mission development, PINCKNEY continually dealt with safety concerns. Constant hot work and painting, ubiquitous scaffolding, cables, and hazardous materials surrounded PINCKNEY Sailors every day.

"The DSRA presented a different working environment with more hazards, rules, and precautions," said LT Rebecca Wolf, PINCKNEY's safety officer. "DSRA also changed the routine, which affected people's mindset. Constantly adjusting to different routines and hazards made it a challenge to achieve operational success."

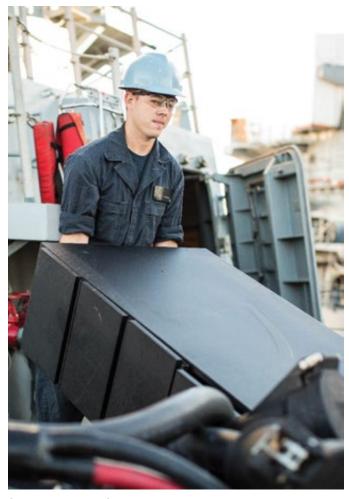
Petty Officer Second Class Megan Stilley shared Wolf's concerns about the shipyard environment and its effect on the crew. "There are so many more risks during the DSRA," she said. "Crew members could trip and hit their head. Electrical wires could pose a threat for possible fires. People really have to have their 'safety eyes and ears on' and keep safety as a priority."

To ensure safety among its crew and maintain daily productivity, Wolf and the assistant safety officer, CSC Edwin Torres, created a selection of projects and training modules to help the crew understand and avoid hazards. The team of safety petty officers organized safety standdowns every few months to emphasize the shipyard "threats." At each event, the crew would rotate through stations for each perceived threat. Sailors were expected to gain understanding of the hazards onboard.

The safety team also created a "safety passport" for Sailors. They used the passport for tracking their progress through the stations, and for learning or getting a refresher about the required topics.

"It was pretty neat to see how the presenters really got involved," said Wolf. "They added different levels of creativity to their presentations. The hazmat station had actual, threatening examples and offered discussions on the proper reading of hazmat labels. To top that off, presenters held a quiz and provided rewards for correct answers."

In addition to hands-on training, Wolf created a "Safety Gram" that was distributed at least three times per month. The newsletter focused on mishaps around



Clockwise from left: SN Kyle Hovelson moves the rest of First Division's equipment from the barge (APL-18) over to USS PINCKNEY (DDG 91). Struggling to get through scaffolding and wires, SN Aurea Guzman attempts to perform maintenance on a valve top side. During a safety standdown, Sailors work through "safety passport," where they rotate through different stations and learn about the dangers on the ship.

the ship and shipyard; it provided a shipyard safety gouge.

Throughout the availability, PINCKNEY's Team Safety was excited to see the complete transformation of safety standards within the crew through their actions and involvement.

"You know your safety program is working and the safety mindset is becoming ingrained when you see Sailors correcting each other and Khakis stopping Sailors to explain the 'why' behind safety procedures," said Wolf.

PINCKNEY ended its arduous 11-month DSRA last fall. Members of Team Safety are confident that the safety standards everyone had practiced and exceeded throughout the availability would carry through at their home port at Naval Base San Diego. SC

ENS Hall is the public affairs officer for USS PINCKNEY (DDG 91).





Germann Safety

By LTJG Benjamin Rathwell Photos by MC2 WILLIAM S. GASKILL

eveloping an effective safety program aboard a naval warship is not an easy task. Sustaining one is even more challenging. USS GERMANTOWN (LSD 42), recipient of the 2014 VADM Bulkeley Safety Award, continues to cultivate its culture of safety awareness and procedural compliance, not only for the crew but also for temporarily assigned personnel.

Maintaining their steady-strain approach, the crew managed a watertight safety record through several multilateral and multinational exercises and operations. Some of these activities were often with embarked personnel who were unfamiliar with shipboard life. When it comes to administering Navy Safety and Occupational Health Programs, GERMANTOWN extends its culture of safety to all personnel – from daytime visitors to personnel embarked throughout patrols.

BUSY YEAR

In 2015 the ship embarked more than 350 Marines and more than 275 personnel from traditional seagoing and shore-based commands. Ensuring these personnel understood shipboard safety requirements was challenging and required active involvement by the ship's leadership.

With afloat safety and the well-being of its personnel at the forefront, GERMANTOWN implemented a variety of programs. Some Sailors have never been on a ship while others have spent a majority of their careers on sea duty. For many, adjusting to life on a ship can be daunting, but GERMANTOWN made these adjustments as seamless as possible.

WELCOME ABOARD

All embarked personnel received a welcome aboard package that included information on command policies, key personnel points of contact and phone numbers, emergency procedures, trouble-call process, services onboard and hours of operation, and commonarea locations.

In addition to the package, which served as a quick reference guide, an accompanying presentation provided visitors and newly arriving personnel with an initial indoctrination to the requirements of living on a ship. Topics included man-overboard procedures, berthing emergency egress and proper use of emergency egress breathing devices (EEBD), electrical safety, basic hygiene, medical, dental, and repair services. With the number of personnel embarked and equipment loaded, support services from deck, engineering, medical, dental, and supply departments were often in high demand.

"This was my first time on a ship," said Cpl Furphy, one of the embarked Marines. "I knew ships in the Navy were big and had a lot of intricate systems. But I couldn't have imagined what it would be like until I got here." The corporal credits training for his quick adjustment to shipboard life. "I thought all of the initial safety familiarization training was going to be pretty cheesy, but after the EEBD and egress training I actually started to understand some of the shipboard dangers and became more aware of the safety equipment."

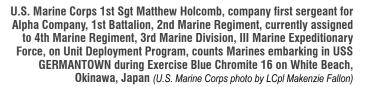
Furphy took it upon himself to extend what he had learned to the rest of his fellow Marines by reinforcing the importance of the ship's training, particularly the proper way to don an EEBD and safely egressing from berthing and work spaces with obscured vision.



Amphibious assault vehicles assigned to the 2nd Battalion, 3rd Marine Division, Hawaii, launch from USS GERMANTOWN (LSD 42) during a beach storming exercise in 2015.

More than 350 Marines and more than 275 personnel from traditional seagoing and shore-based commands embarked USS GERMANTOWN in 2015. Ensuring these personnel understood shipboard safety requirements was challenging and required active involvement by the ship's leadership, particularly during the Cooperation Afloat Readiness and Training (CARAT) 2015 phase where embark and debark changed on an almost weekly basis.

- Commander Destroyer Squadron SEVEN
- 2nd Battalion 3rd Marines
- Afloat Training Group
- · Naval Beach Unit SEVEN
- · Riverine Squadrons THREE and FOUR
- Explosives Ordnance Disposal Mobile Unit FIVE
- · Navy Mobile Construction Battalion FIVE
- Pacific Missile Range Facility Detachment Far East
- · Officers from the Royal Thai Navy





WEEKLY INSPECTIONS

GERMANTOWN used these programs, and several others, to maintain a consistent culture of safety. The safety team also emphasized the value of fundamental shipboard programs like weekly zone inspections, "Division in the Spotlight" reviews, messing and berthing inspections, and daily fire marshal space walkthroughs. These weekly inspections have helped bolster overall safety by educating not only the inspectors, but the space owners as well.

Sailors used this opportunity to document and correct deficiencies and discrepancies. For example, improper or missing safety tags on personal electronics are often the most common discrepancy found during embarkation periods. During these inspections, electronic equipment onboard GERMANTOWN was specifically spot-checked.

"A few years ago, confiscating untagged electronics was like taking candy from a baby," said EM2 Hindrichs. "Now that we have set times for everybody to have their electronics inspected during the initial check-in process, the occurrences are few and much farther between."

FOOD & FITNESS

Culinary specialists in the galley prepared more than 2,000 meals a day for the crew and embarked personnel. Serving that many meals proved to be a challenge for the crew; they needed extra hands to help prepare.

According to CSC Benett, one of GERMANTOWN's culinary specialists, the food handlers (or messmen) who embarked with the Marines received training from the medical department on food handling and proper sanitization standards. Dedicated personnel assigned to the mess decks ensured the crew "chowed down" in a sanitized environment.

Good food often translates to lots of calories and, for embarked Marines, maintaining physical fitness throughout the deployment is crucial to their



EN2 Joshua Timmins (center) and ENS Ailorra Brunnin, both assigned to the amphibious dock landing ship USS GERMANTOWN (LSD 42), look on as an inspector from Afloat Training Group go over the machinery spaces.

mission success ashore. Working out shipboard takes on a whole new meaning when the gym pitches and rolls, something that was emphasized at the welcome aboard presentation. Common exercises for many of the Marines did not stop at just pull-ups, push-ups and running but often included practical strength building like weightlifting and rapid-pace metabolic conditioning drills.

OPERATIONS

A daily "Operations and Intelligence Brief" kept the leadership and underway watchstanders abreast of upcoming schedules and major events. The ship's safety team frequently reviewed safety procedures and incorporated operational risk management into all upcoming evolutions.

"As an amphibious platform, it is our mission to put Marines on the ground," said ENS Chien, the ship's First Division officer. "It's an awesome job and the Sailors enjoy being able to actually see the execution of our mission," he added. "But we have to constantly remember that the hazards are real."

The Sailors and Marines have performed in coordinated efforts as GERMANTOWN maintains a stellar record of zero class "A" or "B" mishaps since 2004. The crew knows it is a feat not easy to achieve especially with the fast-paced OPTEMPO supporting our forward-deployed naval forces.

"The ship is doing very well in all warfare areas," said LT Tribble, the ship's safety officer. "Safety is a part of our operational culture and we make it a part of who we are. Our success wouldn't be possible without the hard work and dedication from both our Sailors and Marines. As we like to say, 'Teamwork Makes the Dream Work' in GERMANTOWN."

SAFETY STANDDOWNS

The ship's Safety Council is dedicated to maintaining a strong safety culture and continues to look for efficiencies to raise the bar by identifying additional areas of improvement. During the deployment, the council revamped the traditional biannual classroom-based safety standdown requirement. GERMANTOWN's safety standdowns were actually interactive events tailored for the season or operations expected during the deployment, as well as before



AM2 Ramon McDuffie, left, and MR2 Sean Walters position a BQM-74E target drone for maintenance on the flight deck of the amphibious dock landing ship USS GERMANTOWN (LSD 42).

commencing every patrol. The training transitioned from a classroom presentation setting to walkthrough stations requiring interactive participation at 30-minute intervals. This method has turned a typically monotonous day into an entertaining event the crew actually looked forward to attend.

OCCUPATIONAL SAFETY

To improve safety and save energy, GERMANTOWN has replaced more than 400 conventional fluorescent fixtures with light-emitting diodes (LEDs) in the ship's critical areas of operation. Crews worked this past year to replace lighting fixtures in the engine rooms and amphibious operating areas. Using a phased approach, GERMANTOWN plans to replace all fixtures on the ship making it safer and more energy efficient.

GERMANTOWN and her crew are committed to excellence and passionate about making the ship a safer place for everyone that comes aboard – from the crew to embarked personnel and visitors. The ship's positive safety culture is reflected upon its excellent safety record.

LTJG Rathwell is the assistant safety officer aboard USS GER-MANTOWN (LSD 42).

Swept Out to Sea

By LT G. A. Wald

t was March of 2015, and my squadron, VAW-115, was in Guam for a detachment exercise. On one weekend we were not flying, so a group of us went hiking near Pagat Caves, a well-known lookout point along the coast.

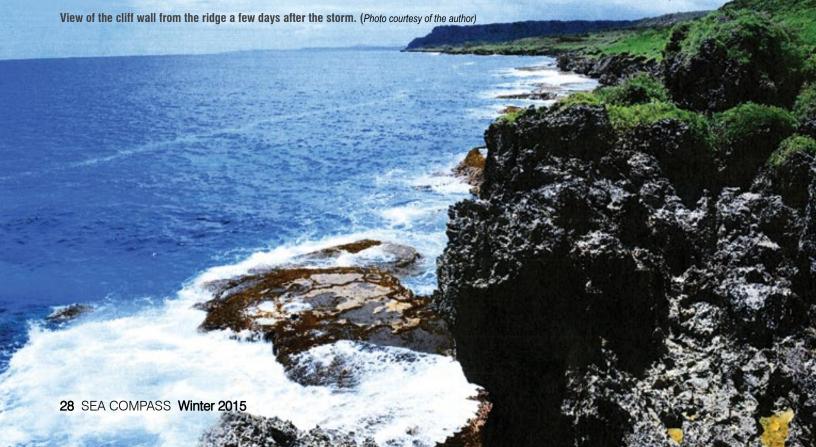
We hiked for 20 minutes through the jungle before reaching a 30-foot ridge overlooking the Pacific Ocean. It was warm and cloudy, but the weather was changing. Part of our reason to go hiking that day instead of hanging out at the beach was the quickly deteriorating weather; Tropical Storm Bavi was predicted to hit the next day.

The sea was rough. We took a break from hiking and watched nine-foot waves crash along the rocks beneath us. From about two hundred yards away, we saw another group of people emerge from a different trail. We watched in disbelief as four hikers climbed down the cliff wall. They tried to walk along the rocky edge of a plateau at the bottom of the cliff wall that jutted out into the ocean. Within seconds, a giant wave swamped them, slammed them into the rocks, and swept them off

the plateau and out to sea. We counted as two people climbed back on the rocks, with no sign of the other two.

I considered two possibilities. Either everyone was fine and we just couldn't tell from our distance, or two people were in trouble. They could be struggling in the stormy seas, unable to get ashore. I checked to see if I had any supplies that could be useful. I had snorkel gear in my backpack and two empty water jugs, which could be used as flotation devices. I sprinted through the thick brush to see if I could help. Following me was LT Justin Strausser, who had experience as an ocean lifeguard.

The thick vegetation slowed our progress. I thought back to my time before the Navy, when I had trained as a wilderness emergency medical technician in Yosemite National Park. The very first thing I had learned (and the message above all else had been ingrained into our minds) was "scene safety": Before rescuing someone in distress, figure out if the scene is safe. Do not put yourself into unnecessary risk. If you get injured trying to rescue someone, then the problem has grown from



one victim to two, and you've only made the situation worse. The limited exposure we had to emergency military medical training as aviators had a different take on risk. Do not accept unnecessary risk, but do accept the risk when the benefits outweigh the cost.

I began to formulate a plan as we neared the other group. First, figure out how many people had been in the party and account for everyone. If anyone was unaccounted for, call 9-1-1. I had no knowledge of the emergency response systems of Guam, but I did know that there were multiple Air Force and Navy Search and Rescue (SAR) helo squadrons stationed there.

I assumed they would be used for something like this. Once emergency services were on the way, I would get as close as I safely could to whoever was in the water, toss them the gear I had and whatever else I could find, and then provide assistance from a distance as we would wait for the SAR helo to arrive.

After three minutes of running through the brush, I came upon the two people who had made it back ashore and by now had climbed back up the cliff wall. I looked around for Justin, but didn't see him.

"How many people are down there?" I asked as I got closer to them.

"There are four of us," one of them replied.

"Where are the other two?"

"I don't know," he said.

I looked out at the ocean and could see one person in the water. He was about 30 feet from the shoreline, safe from the rocks the waves were colliding against below us. I couldn't tell how long he'd be able to stay afloat. Either way, that meant there was still one person missing.

"Do you have a cell phone?" I asked the two on land. They nodded yes.

"Call 9-1-1. Find out [when they'll get here]."

I yelled back to the rest of my group, who were all still 200 yards away, to call 9-1-1 as well. I hoped that between the two attempts, someone would get through. There were now two hazards, determining how long the person in the water could continue treading, and finding the fourth victim.

"How good of a swimmer is he?" I asked the one who wasn't on the phone.

"He's in the Navy," he replied.

"Any swim training?"

"He's a maintainer."

Having accounted for three of the hikers and determining that the one in the water seemed to be surviving — at least for the next few minutes — my attention focused on rescue efforts. While Survivor 1 continued to call 9-1-1, Survivor 2 and I started heading down the ridgeline as we looked for the fourth victim. We found him making his way back up the cliff wall, safely above the reach of the crashing waves below.

As I headed back to Survivor 1 who was still on the phone, he turned to me and said, "Your friend is in the

water."

C I looked back down

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At the bottom of the

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I looked down and saw Justin swimming toward the man in the water. An experienced swimmer, he was quickly making his way through the waves. Once he reached the man, he helped him float and then pulled him back toward shore. They reached the plateau. I watched as the man tried to pull himself back on the plateau — which stood four feet above the water line — with Justin pushing from the water. Their attempts were unsuccessful. The two of them stayed there, trying to make it out of the water.

The waves continued to pound them.

I tried to toss them one of the empty water jugs and watched as the wind took it off into the distance. It became clear that from above, it would be next to impossible to render any sort of assistance. Seeing the two of them being pummeled by the waves, I knew I had to try and do something. But if I was going to be of any help, I would have to get closer.

"Any ETA on the helos?" I asked the guy on the phone.

"Not yet," he replied.

I looked back down the cliff line. It was a 30-foot descent; steep, but at enough of an angle I thought I could make it down safely. At the bottom of the cliff was the rock plateau from where the hikers had been swept out to sea. It jutted out about 20 feet and looked to be a few feet above the water line. I could see waves crashing over the edge, engulfing the plateau but quickly dissipating. Justin and the last survivor were still in the water, near the edge of the plateau.

I put my snorkel gear on my back and, with the other empty water jug, climbed down the cliff line to the rock plateau. I knew I was violating the "scene safety"



rule I had learned in a previous life: to not risk becoming another victim. My plan was to mitigate the risk by paying attention to when the waves were coming to the plateau.

Once I made it to the rock plateau, I could see Justin and the man still trying to make it up onto the edge. I tried to toss the second water jug, but the wind swept it away. I looked up, and saw that a small crowd of random hikers had now formed along the ridgeline. I yelled up to them to throw me anything that floats. A moment later, about 20 yards of rope was tossed down to me.

I grabbed the line. I thought that I might be able to pull the men out of the water by tossing them the other end. I planted my backpack with the snorkel gear on a ledge on the cliff. On my way down, I found part of the cliff wall that jutted out and formed a hook. I tied one end of the line to the hook to secure it.

I didn't even see the wave that swept me off the rock. One moment, I was headed toward the edge of the plateau, almost close enough to throw the other end to Justin. The next moment, I was being pulled out along the plateau and off into the water. I instinctively grabbed onto the line and went off the edge.

Then I was submerged, completely controlled by waves that were now pushing me down, holding me under the surface. I felt helpless as a force smashed my body into the coral and rocks underneath the water.

I tried to contort my body to use my back to take the blows. As the force of the water continued to hold me under, I started to wonder if I'd get a chance to breathe again.

I could feel the line still in my hand but thought there was no way the knot on the cliff wall would hold under the forces that were pulling me away. But it continued to hold, the end wrapped around my hand. It was the only lifeline I had to keep me near the surface and the plateau.

For a moment I felt a reduction in the forces holding me under. I pulled on the line and got my head above the water. I gasped for air and saw an image of the top of the ridgeline, a crowd of people staring down at me. I stuck my free hand in the air and gave a thumbs-down, hoping for some help. But then a second wave hit, and I was pulled underneath the surface again.

For the next few minutes, the cycle continued. The oncoming waves would pull me under water, pummel me against the rocks and coral, and would recede long enough for me to get my head above water for a few quick breaths to be pulled under by the next wave.

As I was thrashed around under the water, images of my wife and my dog back home went through my head. Yet still, the rope — my one lifeline to get back ashore — continued to hold. And then, after a larger wave started to recede, I felt the ball of my foot touch

(() My plan was to mitigate the risk by paying attention to when the waves were coming to the plateau. ??

something solid. I knew this was my chance as I pushed myself off of it and pulled on the line with everything I had left. Then I had a hand on the top of the plateau. Using the line, I was able to pull myself back up on the plateau. I ran back to the edge of the cliff line, out of the distance of the waves.

"New plan," I thought to myself, as I fought to catch my breath. "That was risky. Help them stay afloat and wait for the helos to arrive." Justin and the hiker had been swept back from the edge of the plateau presumably by the same waves I had just encountered. Without a line to keep them near the shore line, they were now 20 feet from the edge. I grabbed my snorkel gear. From the safest distance as I could manage, I tossed the fins to Justin. The two of them then started to make their way back toward the plateau. I returned to my perch on the cliff wall, above the reach of the waves.

After I caught enough air to speak again, I called up to the people on the ridgeline. "How long till the helos arrive?"

"There aren't any helos."

"How are they getting here?"

"They said they are fueling up jet skis on the other side of the island."

I couldn't believe what I was hearing. Jet skis from the other side of Guam? That could take an hour to get here. I looked over at the two figures that were still being pummeled by the waves as they struggled to stay afloat. Without some sort of help, I doubted the surviving hiker would make it the hour until the jet skis arrived.

I watched helplessly from the back of the plateau a few feet up on the cliff wall, as waves continued to wash-out the area in front of me. If I went out there and got swept away again, I wasn't sure if I'd be able to pull myself out a second time. But what other option did the two people in the water have?

I watched a wave roll over the plateau and counted the time until the next one hit: 20 seconds. Then the next one: 30 seconds. If I timed it right, I could get out there, pull them up on the plateau, and we could all make it up the cliff line before another wave would hit. But if another giant wave came during that time, we would all be back in the water, with no other assistance in sight.

I waited for one more wave to hit. Going against every inclination in my body, but still fueled from the adrenaline from the last battle with the water, I ran back out to the edge of the plateau with rope in hand. I threw it to the two of them and they pulled their way over to the edge of the plateau.

As Justin helped push from the water, I grabbed the hand of the survivor and pulled him up onto the plateau. He looked exhausted and started to collapse, but I yelled at him to head to the cliff line. I then grabbed Justin's hand and pulled him up on the plateau. All three of us then ran for the cliff line and climbed back up. I looked back and saw another wave sweep across the plateau. We were safe!

The surviving hiker was barefoot, but someone from above threw us a pair of flip-flops. Exhausted, we finished the 30-foot climb. With the four hikers now all together, I took a moment to assess their injuries. We called off the emergency vehicles, but we still had to make the 20-minute hike through the jungle and back to our parked cars.

I did a quick head-to-toe exam on the four survivors. They were all scraped up, and one had a large gash up his leg and across his knee. However, they said they could all make the trek back to the cars. One of them pointed out that I was bleeding. I looked down and saw my arms and legs also had lacerations. I felt a gash on the back of my head.

I used the leftover clothing we had to make impromptu pressure bandages for our injuries. We were joined by a few other members from the survivors' party, the ones smart enough to stay away from the plateau. We started the trek back to the vehicles. Knowing the adrenaline would wear off soon, I encouraged everyone to keep moving. I could see the rest of my party walking up ahead on the trail; Justin was with them.

After a slow but steady hike we made it back to our cars. Some officers from our party were waiting for us and drove us all to a nearby Navy hospital. After a few hours of evaluation and some stiches (on my back, which had taken the brunt of the damage) we were all released and returned to our commands. It felt good to be back. SC

LT Wald was with VAW-115 at the time of this writing.



Although the winter months usually encourage some people to stay in and enjoy the warmth of their homes, others need to be on the road for work or leisure travel. It is bad enough that winter driving poses certain road hazards; tragically, some drivers do not heed traffic warning signs or state laws. Speeding, driving under the influence, drowsy driving, and not wearing a seat belt are the major contributing factors to fatalities in car wrecks.

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Impaired Driving

- ▶ Nearly 33,000 people died in motor vehicle traffic crashes in 2013, and more than 10,000 of those fatalities occurred in drunk-driving-related crashes. Sixty-eight percent of the drunk-driving fatalities involved at least one drunk driver in the crash with a BAC almost double the legal limit.
- ▶ There are more intoxicated motorcycle riders in fatal crashes than intoxicated drivers on our roads. The highest percentage of fatally injured motorcycle riders with BAC 0.08 or higher was the 40-44 age group (37%), followed by the 45-49 age group (36%) and 35-39 age group (35%).
- ▶ Forty-three percent of the 2,030 motorcycle riders who died in single-vehicle crashes in 2012 had BACs 0.08 or higher. Sixty-four percent of those killed in single-vehicle crashes on weekend nights had BACs 0.08 or higher.
- ▶ Alcohol-impaired motor vehicle crashes cost more than an estimated \$37 billion annually. Consider the legal and financial costs of drinking and driving: jail time, suspended driver's license, higher insurance rates, legal fees, car towing and repairs, and lost wages.
- ▶ The rate of alcohol impairment among drivers in fatal crashes was nearly four times higher at night than during the day (35% versus 9%). Fifteen percent of drivers involved in fatal crashes during the week were alcohol-impaired, compared to 30 percent on weekends.
- ▶ Make a plan for a safe way home before going to a party or a weekend event. If you plan to drink, designate a nondrinking driver ahead of time. You can also program the phone number of a friend or local taxi service into your phone.

Speeding

- ▶ There are more than 1,700 fatalities and 840,000 injuries yearly due to vehicle crashes off public highways.
- ▶ Speed is a factor in nearly one-third of all fatal crashes. On average, 1,000 Americans die every month in speed-related crashes. Of all drivers 15-24 years of age involved in fatal crashes, 32 percent were speeding.
- ▶ In 2012, 34 percent of all motorcycle riders involved in fatal crashes were speeding, compared to 22 percent for passenger car drivers, 18 percent for light-truck drivers, and eight percent for large-truck drivers.
- ▶ Speeding reduces a driver's ability to steer safely around curves or objects in the roadway, and it extends the distance required to stop a vehicle in emergencies. The probability of death, disfigurement, or debilitating injury grows with higher speed at impact. Such consequences double for every 10 mph over 50 mph that a vehicle travels.
- ▶ Fuel consumption increases steadily above 45 mph with passenger cars and light trucks using approximately 50 percent more fuel traveling at 75 mph than they do at 55 mph.



Drowsy Driving

- ▶ In a drowsy driving crash, the driver was reported as drowsy, sleepy, asleep, or fatigued. A typical crash related to sleepiness has the following characteristics:
 - Occurs during late night, early morning or mid-afternoon.
 - Serious accident.
 - Single vehicle leaves roadway.
 - Occurs on a high-speed road.
 - Driver doesn't try to avoid crash.
 - Driver is alone in the vehicle.
- ▶ Although no driver is immune, the following three population groups are at highest risk:
 - Young people (ages 16 to 29), especially males.
 - Shift workers whose sleep is disrupted by working at night or working long or irregular hours.
 - People with untreated sleep apnea syndrome (SAS) and narcolepsy.
- ▶ If you plan a trip or a night out, consider these preventive strategies:
 - Get a good night sleep (full six to eight hours).
 - Don't drive between midnight and 6 a.m.; don't drive all day; avoid driving in the midafternoon hours (especially for older persons); and take a break on long trips.
 - Avoid taking medications that may cause drowsiness. Get someone else to drive if feasible.
 - Recognize and treat sleep disorders.
 - Do not consume alcohol: it interacts with and adds to drowsiness.

Not Wearing a Seatbelt

- ▶ Statistics show that passenger vehicle occupants are buckling up more during the day, but not enough at night.
- ▶ In 2013, nearly half of the motor vehicle occupants who died in crashes were unrestrained. Among young adults 18 to 34 years old killed in crashes, 61 percent were completely unrestrained — the highest percentage of all age groups.
- ▶ Men make up the majority of those killed in motor vehicle traffic crashes. In 2013, about 65 percent of the 21,132 passenger-vehicle occupants killed were men. Fifty-four percent of men in fatal crashes were unrestrained, compared to 41 percent for women.

Source: National Highway Traffic Safety Administration

