

SEA COMPASS

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

Spring-Summer 2015

20-Year-Old Warship's Dogged Determination

USS RUSSELL's (DDG 59) team spirit
instrumental in ship's top shape

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Just Another Day
USS NEW ORLEANS (LPD 18)





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

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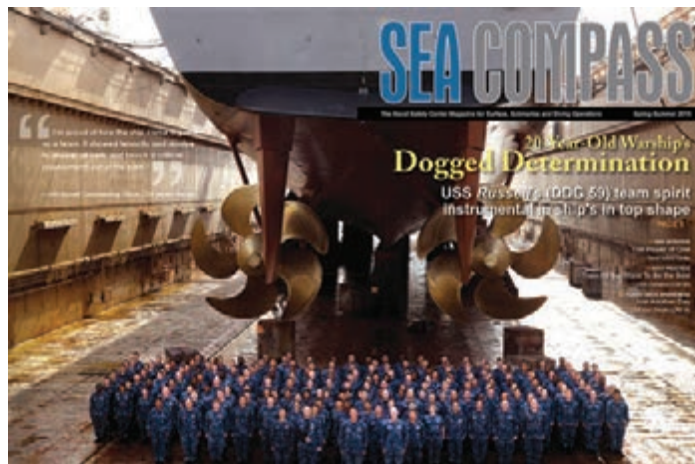
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ON THE COVER: The crew and officers of USS RUSSELL (DDG 59) pause from work for a team photo during an extended drydock selective restricted availability at BAE naval shipyard. (U.S. Navy Photo)

FACING PAGE: CS2 Tyrone Davis jumps rope during his personal physical fitness training aboard guided-missile destroyer USS O'KANE (DDG 77). (U.S. Navy Photo/MC2 Mark Logico)

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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. Email general inquiries to safe-seacompass@navy.mil. You can also send a direct email to the editor at evelyn.odango@navy.mil.



Viewpoints and Opinions

Is there an issue that you need to voice out? Maybe you want to start a dialogue about a safety matter. Articles will be published in the "Viewpoint" section of the

magazine (based on content availability). Send your op-ed (opinion editorial) to evelyn.odango@navy.mil.

Letter 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 if you prefer.

BZs and Attaboys

Nominate yourself or someone from your command/unit for a job well-done. Write a brief narrative (500 words) including name of the nominee 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*. Maybe you've experienced one of the factors that influence risk tolerance. 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.

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Articles submitted for publishing are subject to editing for style, accuracy and length. For more information on how to submit your articles, refer to the link below.

http://www.public.navy.mil/comnavsafecen/Documents/media/magazines/Submission_Guidelines.pdf



EDITOR'S note

Determined

Dedication to the core values of a unit is a contributor to mission success. As the 270-plus crew and officers of USS RUSSELL (DDG 59) have demonstrated this past year, it takes a team to create a climate of shared responsibility.

This issue's cover story takes us step-by-step into RUSSELL's tenacity to bring the 20-year-old warship out of the shipyard and get it back into service. Aside from correcting material discrepancies, the ship's crew and leadership worked together to implement a shipwide effort. From the safety officer to division representatives, with the commanding officer's support, the team made the right decisions at the right level.

The crew and officers met the challenge head on and successfully achieved their goals, to the astonishment of the Naval Safety Center's assessment team.

Bringing together a group of people with different levels of responsibility and experience became a true test of RUSSELL's strength of character. The cornerstone of the ship's success was its proactive approach to the challenge. Detailed planning, constant communications, thorough documentation, and teamwork all contributed



U.S. Navy Photo/ENS Maldeline Sanchez

to achieving milestones, such as firing this main five-inch gun for the first time in over two years.

USS RUSSELL's experience is just one of the many stories about mitigating risks and improving situational awareness in this issue. Whether you're relaxing at home, working long hours or playing at the park, make the right decision to keep harm at bay.

I hope you enjoy this issue and continue to send us your best practices, lessons learned, and perspectives on risk management. Have a great summer!

Evelyn Odango



The 10 Factors of Risk Tolerance

As a safety professional, you can positively shape the risk decision making of your Sailors. Although they may identify hazards and understand the outcome, a variety of factors may still influence them to accept more risk than they should. Let's take a look at what can influence risk tolerance and what safety leaders can do to shape those behaviors.

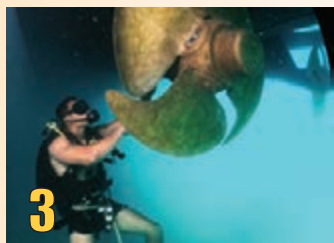
Adapted from "Strategies for Understanding and Addressing Risk Tolerance," Exxon Mobil, 2011. (U.S. Navy Photos/File)



1 Overestimating capability (younger people) and experience (role models). Reflect on your role as a mentor, admit that despite your experience the exposure is still there. Acknowledge skill but reinforce policies and procedures.



2 Familiarity resulting in complacency. Encourage Sailors to focus on the task like it's the first time they have done it. How would I teach this to a new person? Stop and think. Draw from knowledge, skill and techniques.



3 Underestimating seriousness of the outcome. A hazard could involve a "pinch point" but the outcome actually results in amputation or crushing. Hazard identification should better define the outcome. Get people to ask, "How bad could it really be?" Apply the ABCD process. Teach Sailors worst-case scenarios.



4 Voluntary actions and being in control. Key factor in off-duty risk (people are 28 times more likely to be hurt off the job). Overconfidence and false sense of control may lead to underestimating risks. Integrate "stop and think" moments into personal activities. Use checklists to improve situational awareness.



5 Personal experience with an outcome. If you've seen a mishap or a near-miss that ended badly, you will be less tolerant of the risk. However, as incident rates improve, fewer leaders will have had these experiences resulting in scepticism. Know what incidents have occurred and point out the consequences. Tell sea stories.



6 Cost of non-compliance. Identify the cost of non-compliance and increase where necessary. As the actual or perceived cost increases, the risk tolerance decreases. Remove barriers and reward those who gauge risks and mitigate the factors that increase the potential for error.



7 Confidence in equipment. Overconfidence in technology increases risk tolerance. Ensure technical training captures the limits of equipment and engineering. Promote the ABCD process and on-the-spot risk assessment. Make sure Sailors know how to gauge risk. Teach them to ask, "What if it fails?"



8 Confidence in PPE and rescue. Relying solely on PPE and rescue efforts increases risk tolerance. Emphasize the limits of protection and rescue measures. Ensure Sailors understand these as "last line of defense" or "not to be relied upon" controls. Provide appropriate ORM and TCRM training.



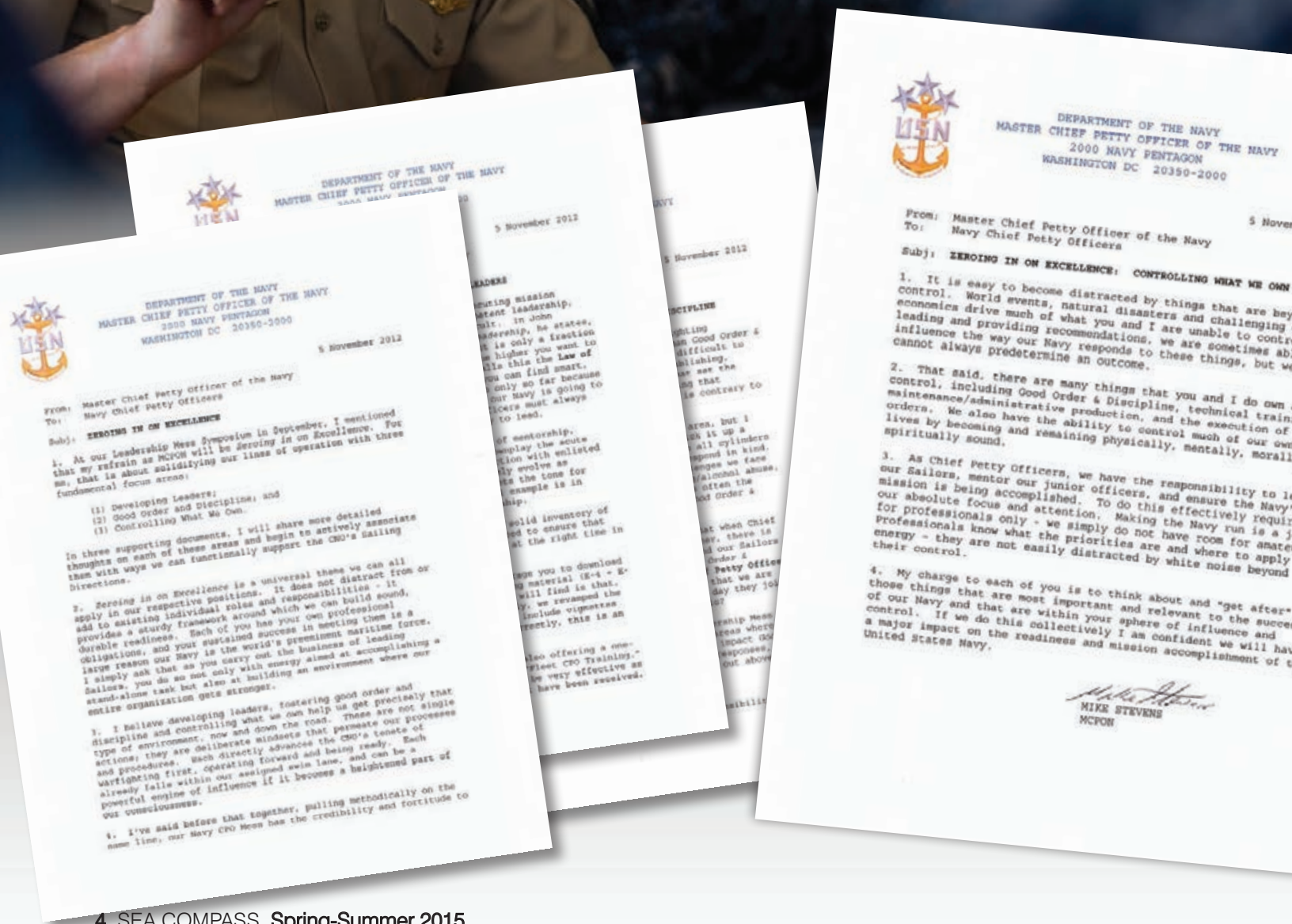
9 Potential profit or gain. Perceived or actual (fiscal, emotional, physical) gains increase or decrease risk tolerance. Remove rewards for risk taking. Eliminate barriers to doing it the right way. Bring these concepts into leadership discussions to increase awareness.



10 Role models accepting risk. Leaders' actions influence the mindset, behavior and decision-making abilities of their workers. Identify and address risk-taking leadership (in the appropriate situations). Recognize perceived pressure that could lead to erosion of standards and address immediately.



Zeroing in on Excellence





Master Chief Petty Officer of the Navy Mike Stevens

From MCPON's Message to the CPO Mess, April 2015

This summer I challenge you to help our Navy save a life. If each of us makes that a personal goal, I know that we can have a significant impact on reducing our summer mishap rate.

With that said, your safety leadership goes beyond the summer season; it's enduring. I want you to remember that there will not be a day spent as a chief petty officer in the United States Navy that you won't or shouldn't be actively shaping risk decision-making on and off duty. Your leadership and engagement matter.

Last summer we had 22 mishaps. Let's work as a Navy-wide CPO Mess to cut that number in half (yes, in half) this year, with the goal of continually reducing mishap rates into the future. If you can help prevent one mishap, our combined efforts will help shape our Navy-wide safety culture.

With the summer season [here], I think it's important for all of us to take time to reflect on our role in mishap prevention. Consider for a moment the millions of risk decisions that are made by our Navy and Marine Corps team in the course of a typical day. From the moment we wake up, we are engaged in activities that involve hazards and require risk decisions. Our Sailors operate and maintain dangerous warfighting systems and platforms, take those platforms to sea, and take them into combat situations.

As you know, what we do is inherently dangerous. The risk decision-making process only takes a matter of seconds but can result in outcomes that have significant financial, operational, and emotional cost for the individual and organization. As chief petty officers, we can help positively shape the decision-making [abilities] of our Sailors. We must understand that although our people may identify hazards and understand the outcomes, a variety of factors can influence them to take more risk than they should. Factors such as complacency, lack of experience, and perceived pressure affect our Sailors' willingness to take risk. Our leadership is key to influencing this decision making on and off duty.

This is why our continuous, engaged presence on the deck plates is so important. You help identify emerging hazards during maintenance and evolutions; you train our Sailors on the potential severe outcomes of poor decision-making. You know your people well enough to understand how factors such as fatigue, stress, and decision-making maturity can impair their decision making and increase their chances of being involved in a mishap or contributing to one.

As outlined in "Zeroing in on Excellence," this is "controlling what we own." When the CPO mess pulls on the same rope, together there is nothing we cannot accomplish.

Editor's Note: MCPON Stevens released his "Zeroing in on Excellence" initiative in the form of four letters to the Navy Chiefs' Mess on Nov. 6, 2012. It consists of three focus areas: developing leaders, good order and discipline, and controlling what we own.

RELATED ARTICLES

MCPON Releases "Zeroing in on Excellence" Initiative

http://www.navy.mil/submit/display.asp?story_id=70532

"Zeroing in on Excellence" Focus Areas

<http://www.navy.mil/features/MCPON%20ZEROING%20IN%20ON%20EXCELLENCE.pdf>

MCPON(AW/NAC) Mike Stevens speaks to area command master chiefs and senior enlisted leaders at Naval Station Mayport, Fla., about his "Zeroing in on Excellence" initiative. (U.S. Navy Photo/MC2 Thomas L. Rosprim)



Waterfront Wire

Safety buzz on the web and around the fleet

Safety Seminar in Real Time

By LCDR James Bostick, Naval Safety Center

More than 400 commanding officers and junior Sailors from Commander Fleet Activities Yokosuka shore and sea commands attended the Naval Safety Center's (NAVSAFECEN) December 2014 safety seminar. Afloat Training Group Western Pacific hosted the event.

The purpose of the seminar was to talk one-on-one with Sailors, discussing the nine surface ship areas (safety administration, deck, main propulsion, auxiliary, weapons, damage control, NAVOSH, combat systems, and electrical safety) covered during a shipboard safety assessment. Ten subject matter experts (SMEs) from NAVSAFECEN's Afloat Safety Program Directorate discussed each of these mission areas' top-10 mishap trends. The team also presented data contributing to these trends and provided resources for managing risks.

At the invitation of Ship Repair Facility (SRF) Yokosuka safety director and in coordination with the Commander, Pacific Fleet safety officer, the team also assessed a mock-up lab used for training fire marshals and SRF repair personnel. The lab was designed to assist in organizational-level training of command duty officers, gas-free engineers, safety assistants, and petty officers to recognize housekeeping and fall-protection hazards during industrial availabilities. The lab can help ship operators learn to better identify hazards in an industrial availability environment. There are currently no training facilities that address hazards in a maintenance availability (shipyard) environment at this level in any other fleet concentration area.

These seminars educate COs, XO's, CMCs, safety officers, wardrooms, chiefs' mess, and junior Sailors about managing risk and creating a safety culture that promotes proactive attitudes. The SMEs discuss the benefits of operational risk management and time critical risk management. The SMEs provide visual materials gathered from previous assessments to portray what to do and what not to do in the different areas of safety, including the planned maintenance system (PMS) and zone inspections.

A valuable element of the seminar allows SMEs to interact with the attendees and answer questions. This face-to-face time with Sailors lets NAVSAFECEN analysts discuss best practices and ensures Sailors are maintaining a safe working environment. (See "Ask the Experts" on Page 15.)

Subject matter experts in the various mission areas supply references for maintaining the ship's gear. These include the "General Specifications for Overhaul of Surface Ships," the "Naval Ships' Technical Manual," PMS, and OPNAV instructions. This ensures Sailors follow standard procedures and eliminates the use of "tribal knowledge" ("this is how we always did it") approach.

Sailors who cannot attend can get a CD containing the seminar topics and SME information from their TYCOM safety office. The surface ship division plans to schedule similar seminars throughout the year.

LCDR Bostick is the surface seamanship lead in the Afloat Safety Programs Directorate.

RELATED ARTICLE

"San Diego Shipboard Sailors Sharpen Safety Skills" by MC1 Trevor Welsh, Naval Surface Force U.S. Pacific Fleet Public Affairs
http://www.navy.mil/submit/display.asp?story_id=85738



Sailors assigned to San Diego-based afloat commands attend the Naval Safety Center Afloat Safety Seminar at the Naval Base San Diego theater. The first 2015 safety seminar held in February centered around safety administration, mishap prevention, and warfare-area-specific safety. (U.S. Navy Photo/MC1 Trevor Welsh)

Sea Compass Reader Survey Results

During the December 2014 safety seminar in San Diego, junior Sailors and officers responded to our reader survey. We wanted to find out if our readers are getting the information they need and/or want from *Sea Compass* magazine. Thank you for taking the time to give us your inputs; we appreciate your comments. If you are not subscribed to the magazine or are not receiving your subscription in a timely manner, please contact us at safe-seacompass@navy.mil or download the subscription form at http://www.public.navy.mil/comnavsafecen/documents/media/magazines/mag_subscribe.pdf.

- 111** Total number of responses by age group: 18-29 (50), 30 up (49), unknown (12)
- 18** Personnel in supervisory positions: 18-29 (5), 30 up (12), unknown (1)
- 20** Not interested in any of the topics/sections covered in *Sea Compass*: (A) Editorial, (B) Waterfront Wire, (C) ORM Playbook, (D) B2BPMS (Back-to-Basic PMS), (E) Ask the Experts, (F) Safety Standdown Best Practices, (G) Case Studies, (H) Lessons Learned, (I) Attaboys (BZ), (J) Viewpoint, (K) Off-Duty Recreation/Traffic

Top-3 topics/sections by age group:

18-29	#1: E, H	30 up	#1: H	Unknown	#1: C, E, G, H
	#2: K		#2: E		#2: I, K
	#3: D		#3: F		#3: B, D

Most popular method of receiving the magazine:

- Electronic/web
- Wardroom, mess deck and ship mail (print)

Comments:

- "Lessons learned articles should be more personalized and hit home with all Sailors to adequately get the message across."

"More issues delivered to waterfront ships."

"I love the insight and tips offered in *Sea Compass*. Great publication!"

"More case studies of discrepancies and mishaps, and more pictures."

"Hard copies; email isn't always up."

"Have more mishaps/lessons learned put into it. People want to [read] stories - best way to educate our Sailors."

"Never heard of this magazine."
- "I would make it more readily available to Sailors. Not many members are aware of what it is."

"We do not receive [*Sea Compass*] on our ship."

"I honestly take advantage of *Sea Compass* while waiting for briefs in the wardroom. I flip to the above sections and focus on these."

"[Have] hard copies delivered to ship and distributed to ship's library, wardroom and chief's mess."

"I am not familiar with the contents of *Sea Compass*."

"Web articles to all ships and NIINs for parts needed to correct safety issues."



20-Year-Old Warship's

USS RUSSELL had just concluded type commander sea trials when the ship went through a two-day safety survey in late October last year. The sea trials were the culmination of nearly two years in the yards, following a crew swap with USS HALSEY (DDG 97) in January 2013. RUSSELL had just gotten underway on ship's power for the first time in 662 days on Oct. 28, two days before the survey began.

By LTJG Mike Chahinian, USS RUSSELL (DDG 59)

It was RUSSELL's first safety survey since undergoing an \$84 million extended dry dock selective restricted availability (EDSRA), and it proved to be a challenge. The crew was green; many of them had never been underway before.

The focus of the crew during the EDSRA was to correct the many material discrepancies that came to light after 20 years of hard driving at the forefront of the fleet.

"The key to a successful safety survey in such challenging conditions was to plan well ahead of time," said LT Joseph Hamilton, RUSSELL's safety officer at the time. "We contacted the Naval Safety Center early and remained in [touch] with them."

"We reached out to other ships on the waterfront to see what lessons they'd learned, and incorporated those

into our own plan," said Chief Operations Specialist Marvin Hudson.

The linchpin of Hamilton's plan was to identify all of RUSSELL's discrepancies ahead of time and present them to the survey team along with a detailed plan of action and milestones (POA&M). "It was a total ship effort that showed we cared," said Hamilton.

This approach ensured there were no surprises the day of the survey, which was crucial considering that there would be no time to correct discrepancies in the immediate days before the sea trials.

To facilitate the shipwide effort, a safety representative was appointed in every division. This person helped ensure that every division was acting with safety in mind and that the ship's leadership received detailed inputs for the POA&M.



Dogged Determination

USS RUSSELL also used the afloat safety officer course (CIN# A-4J-0020), which is offered by Surface Warfare Officer's School twice a year. Locations vary.

"The course was key because it gave us contacts all the way up the chain of command to Commander, Surface Forces," Hudson said.

Documentation is important in any shipboard review, and a safety survey is no exception. The safety officer kept two years of records of safety committee meetings and training in a folder on the ship's server. On the day of the survey, the survey team simply opened the folder and reviewed all the contents.

Another important aspect of maintaining documentation was to send the mishap reports off-ship as soon as possible. Although there is a 30-day window for sending the mishap reports off-ship, Hudson recommends sending them immediately to prevent a build-up.

To ensure a swift and smooth survey, all key players — including the safety officer, assistant safety officer, all

departmental safety representatives, and key divisional representatives — used radios [to communicate]. "I think they [surveyors] were blown away by how quickly we corrected some discrepancies right on the spot," said Hamilton.

"I'm proud of how the ship came together as a team," said USS RUSSELL Commanding Officer CDR James Harney. "It showed tenacity and resolve to answer all bells and knock a critical [assessment] out of the park."

LTJG Chahinian, assistant weapons officer, is USS Russell's public affairs officer.

Editor's Note: Beginning this spring, the Naval Safety Center has transitioned from conducting surveys into performing safety assessments. This switch aligns with the fleetwide safety management system initiative and supports a standard process for capturing lessons learned. These assessments also focus more on safety and risk management culture and leave most of the compliance and procedural concerns to INSURV.

LEFT: A line handler releases the mooring lines of guided-missile destroyer USS RUSSELL (DDG 59) as the ship departs Joint Base Pearl Harbor-Hickam for the last time while homeported in Hawaii. (U.S. Navy Photo/MC2 Daniel Barker)

RIGHT: ENS Joseph C. Walker checks the telescopic alidade onboard the guided-missile destroyer the morning of the ship's return to port following the first underway period in nearly two years. (U.S. Navy Photo/OS3 Nicolas I. Mahone)

ORDNANCE ON-LOAD AT SEA

By MCSN J. A. Mateo, USS HARRY S. TRUMAN (CVN 75)
Navy News Service

Early this summer (June 1-3), the aircraft carrier USS HARRY S. TRUMAN (CVN 75) loaded an estimated 3.9 million pounds of ordnance in preparation for the ship's upcoming work-up cycles and follow-on deployment.

MH-60S Sea Hawk assigned to the *Nightdippers* of Helicopter Sea Combat Squadron Five (HSC-5) transferred weapons including missiles, small arms, and general-purpose bombs to TRUMAN by vertical replenishment from the Military Sealift Command dry cargo and ammunition ship USNS WILLIAM MCLEAN (T-AKE 12).

LCDR J. L. Bell, TRUMAN's ordnance handler officer, said the completion of this on-load makes the carrier fully equipped and capable of conducting combat operations.

The ship will be loaded to complete all the training for Tailored Ship's Training Availability/Final Evaluation Problem (TSTA/FEP) and Composite Training Unit Exercise (COMPTUEX). TSTA/FEP is the first combined training event in the inter-deployment

training cycle and places emphasis on damage control, flight deck operations and simulated combat. COMPTUEX is a series of training scenarios set to qualify TRUMAN as a deployment-ready carrier. The exercise is designed to bring together a battle group and its components into a fully functional fighting team.





Left and above photos: An MH-60S Sea Hawk helicopter assigned to the *Nightdippers* of Helicopter Sea Combat Squadron Five (HSC-5) retrieves ammunition from the Military Sealift Command dry cargo and ammunition ship USNS WILLIAM MCLEAN (T-AKE 12) during an ammunition on-load with aircraft carrier USS HARRY S. TRUMAN (CVN 75). (U.S. Navy Photos/MC3 J. S. Richardson)

Sailors move more than 1,340 pallets of ammunition in three days

“Over 1,340 pallets of ordnance were transferred to TRUMAN during a three-day evolution,” said Bell. The ordnance is available for the ship and squadron to use during the training cycle.

TRUMAN’s Gun Boss, CDR J. D. McDonald, said a successful evolution is based on the cooperation of many departments.

“Although this is [a weapons] department evolution, it is truly an all-hands effort,” said McDonald. “Supply department made sure we had food and drinks during the long hours, AIMD and Air department contributed by moving ammunition, while security kept traffic in the hangar bay and flight deck secured.”

Bell said the success of the on-load was a combination of training and supervision.

“Every Sailor that was involved with transporting ordnance earned qualifications and completed training throughout the year,” said Bell. “We conducted ordnance handling training, forklift courses in the hangar bay and in the magazines as well as weapons elevator training. The entire Weapons department was involved with the training and execution of this evolution.”

Aviation Ordnanceman 2nd Class J. Osorio explained the large role safety plays during an on-load. Sailors practiced time-critical risk management by assessing every

situation while considering the safety of their shipmates.

“Safety was the primary responsibility of everyone involved with the on-load,” said Osorio. “Every station had leadership such as officers, master chiefs, chiefs and leading petty officers to monitor the movement of every ammunition.”

Sailors also moved ammunition with, at least, one other safety spotter to make sure the path was cleared and the movement was meeting all safety standards.” **SC**

.....
MCSN Mateo is assigned to the USS HARRY S. TRUMAN public affairs department.



DCFA Elizabeth Brizuela checks the pressure of a halon tank. (U.S. Navy Photo/MCSN Wesley J. Breedlove)

Halon Operational Test

By DCC(SW/EXW) Justin Jones, Naval Safety Center

It had been a normal day at Pier 5, Naval Station Norfolk, but it could have been at any pier on any base, or even underway. Sailors for the repair/damage control division had scheduled a halon operational test, in which they test-operate the halon system and test-operate remote actuation for halon/heptafluoropropane (HFP) system. The test is part of the 36-month scheduled maintenance requirement.

The damage control assistant (DCA), LCPO, LPO and work center supervisor (WCS) had meticulously planned the maintenance so that it could easily be

accomplished and wouldn't interfere with other tasks listed in the "Plan of the Week." Originally, a chief was the on-station safety supervisor. The DCA was the coordinator in the damage/central control station (D/CCS). A DC1 was leading the team in clearing tags. A DC2 was in the space with stop-watch. Another DC2 was resetting and reconnecting the actuating piston heads. And a DC3 was discharging the CO2 actuator. They had all done these assignments before and had been briefed on how the maintenance would proceed.

On the day of the event, all the participants were present at quarters and were again briefed on the test.

The “Plan of the Day” (POD) was read, and there were no ship’s evolutions that would interfere. However, as we all know, the POD can change rapidly and often.

At 0830, personnel began arriving on station. After a communications check, everyone was ready to start. Suddenly an unplanned working party was called away, and the DC1 was sent off to look for a hull maintenance technician fireman (HTFN) for the working party. The maintenance had begun to change before it even started.

Was the DC1 only a small part of the equation? He was only on the team that would restore the system after the checks were done.

Assessing the change, the LCPO decided to continue the test. The DC1 was supposed to be back before the system was ready to be restored. Or the second DC2 could handle restoring the system by himself.

After testing the primary halon system for MER2, the team was ready to move to the reserve system in MER2. The DCA communicated his intentions again to the engineering duty officer (EDO) in D/CCS and was told that MER2 personnel had just started the lube oil purifier. The DCA told the LCPO, and the team moved to MER1.

The second DC2 entered D/CCS. The DCA told him that they were done with primary in MER2 and were moving to MER1 primary. The EDO stopped the DC2 and told him that he needed to take the roving watch, because the MM2 who was originally assigned had to go to medical. The DC2 decided to find a replacement for the testing, so he went to the shop and got an HT2 to join the maintenance team and help reconnect the actuation heads. Now we have reached a point in the evolution where TCRM must be applied to re-address the balance of personnel.

The DC1 passed the LCPO (who was standing outside MER1) after he fetched the HTFN for the working party. The LCPO briefed the DC1 that the second DC2 was resetting and reconnecting the actuation heads for MER2 primary, but that they’d had to delay testing MER2 reserve. The DC1 saw the HT2 standing outside the halon cylinder bank, but thought nothing of it. He thought that the second DC2 was inside the space. The DC1 arrived in D/CCS and saw the second DC2 with a clipboard. The DC1 told the DC2 that he was on watch, so the HT2 was taking over for him.

Did the LCPO know about this change? Did the second DC2 communicate with the EDO, DCA, and LCPO about his current assignment and how the EDO was taking him away from that assignment?

The DC1 assessed the situation and decided that the testing for MER1 primary could continue, because an interruption at this point would cause even more confusion. After the LCPO reported back to D/CCS that MER1 primary testing was completed, the DC1 told everyone to stop the evolution and assemble in D/CCS. All personnel showed up except for the HT2, who didn’t have a radio.

The DC console/summary alarm panel suddenly indicated a release of halon in MER2. Moments later, as repair/damage control division personnel were exiting D/CCS en route to the halon cylinder bank, they ran into personnel running out of MER2. Arriving at the door to the halon cylinder bank, they saw the HT2 standing there, shaking and white as a ghost. The team knew exactly what had occurred. **SC**

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DCC Jones is the lead damage control analyst in the Afloat Safety Programs Directorate.



Had TCRM been applied consistently and effectively, the halon maintenance team would have been able to succeed in the midst of a changing environment.

Assess ► How was the loss of the resetting-and-restoring supervisor going to affect the process?

Balance ► Was HT2 adequately trained and experienced with this maintenance so that he could replace the second DC2?

Communicate ► Did the safety supervisor know about the changes to the original plan?

Do and Debrief ► Had the A-B-C portion been effectively executed, then there may have been ways to *Do* (complete the task) and then *Debrief* where the shortfalls existed and how they were mitigated or could have been prevented.

Electrical Workbench Grounding Straps

By EMC(SW) Michael Lavergne, Naval Safety Center

How many times have you been in an electrical/electronic shop and noticed that there were single, green wires with something attached (that looked like an alligator clip) coming from the work bench?

It isn't just an ordinary wire. It is a lifesaving device known as a "grounding strap," and it connects that piece of equipment to the hull. Electric current likes to flow in the path of least resistance. When there's a problem, the current will flow to ship's hull instead of shocking (or killing) the worker.

Grounding straps are covered by PMS MIP series 6652/006(or L06) A-1+ and NSTM 300. You must have one grounding strap for every four feet of work bench. Grounding leads and grounding straps must have green insulation or be marked with green-colored tape or green-colored adhesive labels. Grounding straps must be at least 40 inches long and able to reach every part of the work bench.

A 50-amp, blunt-nose, battery-type clip and insulating sleeve must be installed at the free end. The Servit post must be sealed with two coats of varnish (A-A-1800) or other suitable preservation to protect from moisture or corrosion. The ground stud should be welded to the hull (if feasible) or to a main member on the bulk head. The grounding stud should be connected to ground using three nuts or a collar stud with two hex nuts.

A ground bus serving a row of workbenches must be continuous (unsliced) cable no longer than 50 inches.

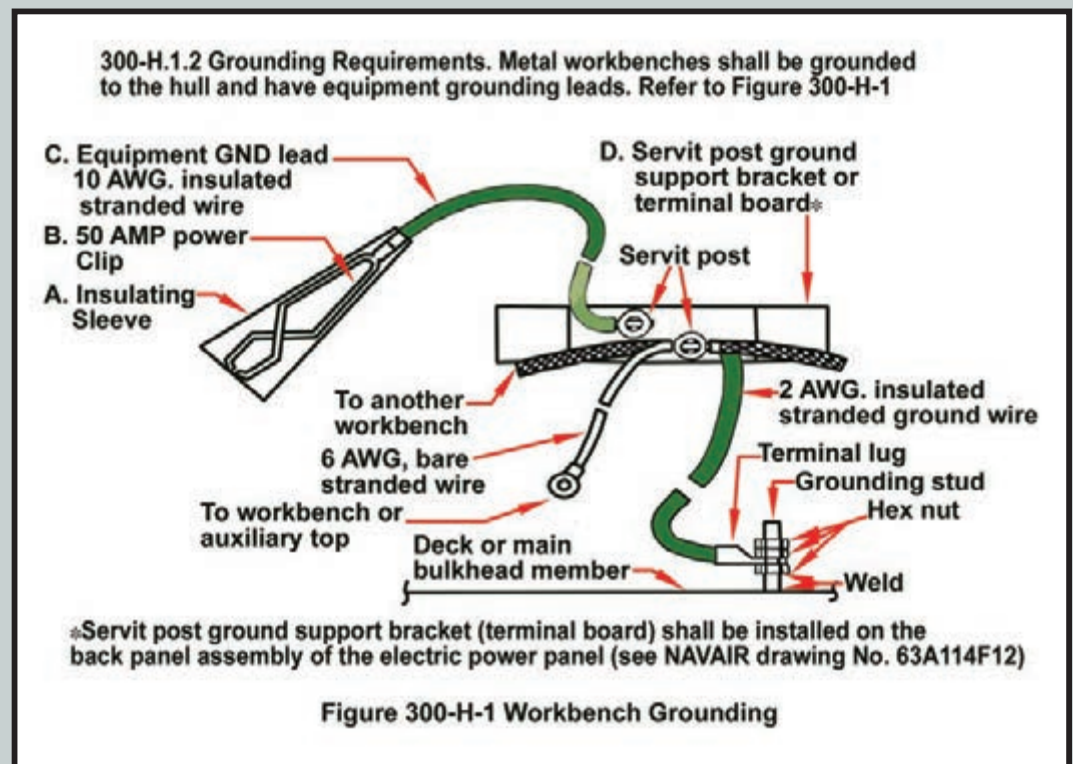
Resistance from the ground (battery type) clip to a point beside the deck grounding stud must be greater than or equal to 0.1 ohm. If less than 0.1 ohms resistance, tag out the disconnect switch and test panel, notify work center supervisor, repair or replace as necessary, remove safety tags and return equipment to readiness condition.

NSTM 300, Electric Plant-General, states ships shall have a minimum of one electrical workbench maintained all times.

More information on standardizing electrical workbenches/requirements can be found in:

- *Sea Compass*, fall-winter 2013 (<http://www.public.navy.mil/comnavsafecen/documents/media/magazines/sea-compass/fall-winter2013.pdf>)
- *Naval Ship's Technical Manual* (NSTM 300 Appendix H)
- PMS MIP 6652/006(or L06) A-1+

EMC Lavergne is a fleet electrical analyst in the Afloat Safety Programs Directorate.



Source: NSTM 300, Page 300-H-1

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CAPSTANS, LAGGING PADS & BULLETINS

Questions and answers from the December 2014 Safety Seminar

What can you use to remove rust [to prevent corrosion] on the working area of the capstan?

Use light grit sand paper to remove any surface rust on the working area. The use of any petroleum products or lubricants (i.e., silicon, linseed oil) or any other type is strictly prohibited.

REF: “Navy Safety and Occupational Health Program Manual for Forces Afloat” (OPNAVINST 5100.19E), C0602U(3)(A). *Note: It does not, however, discuss what to use or prohibit silicon or linseed oil.*

Why do we need removable lagging pads on the flexible hose connections?

All flex hoses and connections’ lagging must be removable so that you can complete required PMS checks.

REF: “Planned Maintenance System Maintenance Index Page” (PMS MIP 5000 series)

Why does the NSC not send out the *Ships’ Safety Bulletin* anymore?

The *Ships’ Safety Bulletin* (SSB) is still in circulation. **To get the most current SSB, send an email to safe-afloatfdbk@navy.mil.**



SN Nicholas Dalton polishes one of the ship’s capstans, located on the foc’sle of USS DONALD COOK (DDG 75).
(U.S. Navy Photo/MCC Alan J. Baribeau)

TRAIN FOR THE WORST

By ENS Alexander Gatlin, USS COMSTOCK (LSD 45)

Photos by MC3 Lenny LaCrosse

It's easy to get complacent when things go smoothly 10 out of 10 times. It's easy to maintain your composure when the only emergencies you have ever faced are drills and walkthroughs. The true test of a ship crew's character and preparedness comes when challenged with a situation such as the one USS COMSTOCK recently faced.

The underway replenishment (UNREP), just like the previous 10 UNREPs, was unfolding uneventfully in the Arabian Gulf. Suddenly a group of dhows (Arab sailing vessels) appeared ahead of COMSTOCK, USNS RAINIER (T-AOE 7) and the French ship Jean Bart shortly after commencing replenishment.

Faced with imminent danger, the efficiency and confidence of the ship's crew — built and refined through long hours of study, preparation and practice — became more valuable than gold.

BACK STORY

Four months into deployment, the Sailors and Marines aboard COMSTOCK had become adept at executing a timely, efficient, and safe UNREP. Their skills were due to more than simple repetition. Part of the credit went to the safety and training procedures put in place by COMSTOCK's chain of command for this high-risk evolution.

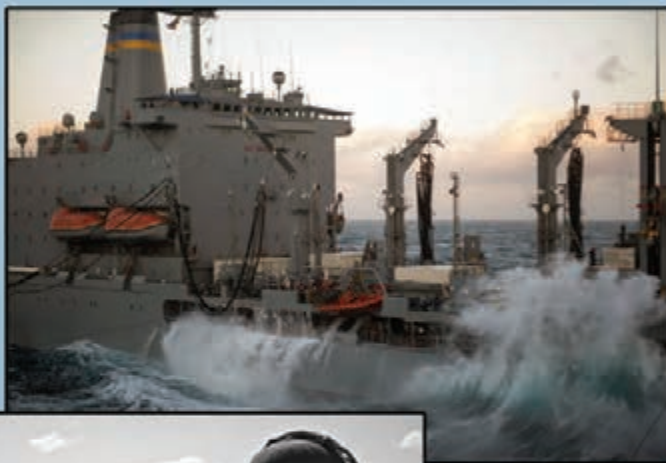
During every UNREP debrief, each watch station discusses the goods and bads of the evolution, what was done well, and what needs improvement for the next time. The safety officer compiles operational risk management (ORM) assessment sheets to cover every detail concerning the evolution and capture talking points during each debrief. These points are distributed as lessons learned at the next UNREP brief.

At every special evolution brief, ORM is stressed

SN Matthew Romback uses a sound-powered telephone to pass information to the bridge aboard the amphibious dock landing ship USS COMSTOCK (LSD 45) during an underway replenishment-at-sea.



The Military Sealift Command fleet replenishment oiler USNS JOHN ERICSSON (T-AO 194) takes on heavy waves during a replenishment-at-sea with the amphibious dock landing ship USS COMSTOCK (LSD 45).



Forward lookout maintains a vigilant watch during an underway replenishment between the USS COMSTOCK (LSD 45) and USNS RAINIER (T-AOE 7).



TO BE THE BEST



The amphibious dock landing ship USS COMSTOCK (LSD 45) is underway in the Gulf of Aden. (U.S. Navy Photo/MC3 Stephen M. Volaw)



USS COMSTOCK (LSD 45) conducts an UNREP with USNS RAINIER (T-AOE 7) and USS SAN DIEGO (LPD 22).

Suddenly a group of dhows (Arab sailing vessels) appeared ahead of COMSTOCK, USNS RAINIER (T-AOE 7) and the French ship Jean Bart shortly after commencing replenishment.



A deck rigger aboard USS COMSTOCK (LSD 45) ensures a proper lineup of a fuel probe and receiver during underway replenishment.

to ensure that each individual is fully aware of the risks involved with each step and process. Every potential hazard is addressed in detail, as are ways to mitigate risks. The CO and XO stress to the crew that procedural compliance and technical proficiency are key to their safety and of the ship's. These structured protocols are applied during the evolution and improved upon later.

Hands-on training is a top priority. The navigation department conducts flag-hoist drills to ensure that all personnel in the department are proficient with the flags and day-shapes required for an UNREP. In addition to regularly scheduled departmental UNREP training, COMSTOCK's deck department conducts safety and station walkthroughs the day prior to any UNREP and again immediately prior to stationing the UNREP detail. Running through the roles and responsibilities of every station — from safety observer to deck rigger to signalman to line handler — ensures that everyone involved with the evolution knows their roles.



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BM2 Marcus Jones directs a helicopter during flight operations aboard the destroyer USS LABOON (DDG 58).
(U.S. Navy Photo/MC3 Desmond Parks)

We prepare the primary UNREP station(s) and back-up station the day before. During actual UNREPs, watch standers do emergency breakaway drills to improve their proficiency and confidence. This repetition increases everyone's ability to fully comprehend and execute procedures — from chain of command to Sailors and Marines conducting the evolution — with no room for errors.

COMSTOCK also has implemented a new policy during this deployment. Before any personnel are allowed to stand a watch station under instruction (U/I), they must meet with their qualified watch stander to discuss (and, if necessary, walk through) all of the actions and responsibilities they are required to know. The senior watch officer then allows the U/I to stand the watch under instruction during the next evolution. This practice provides an excellent instructional tool and enables these prospective watch standers to seamlessly step into their roles. It reduces errors caused by lack of experience or understanding, and it improves efficiency.

THE TEST

The training had already paid dividends aboard COMSTOCK during this 11th UNREP of her deployment. When the scope operator on the bridge saw 15 small dots 10nm out, directly in the path of the three ships, the operator proceeded to perform the next steps. The lookouts and officers on the bridge wing confirmed the sighting. Everyone executed their roles and responsibilities as they had trained. For all intents and purposes, the same situation had happened 10 times before on this deployment.

The crew went into action but it seemed futile: numerous radio transmissions went unheeded, the flashing of spotlights went unanswered, and one prolonged blast from the ship's whistle fell on deaf ears. The crew on the rig, on the bridge and in the engineering plant knew exactly what to do.

The ship sounded five short blasts, and the word came over the 1MC to initiate the emergency breakaway. Pumping ceased, the rig was returned and lines were recovered — all in the span of a few short minutes. This efficiency on station gave the bridge team ample time to safely maneuver through the swarm of fishing boats, a complex task in its own right.

The time, effort and training dedicated to safety and technical proficiency enabled the crew of COMSTOCK to execute without damage to equipment or injury to any personnel onboard. This culture of safety excellence was put to the test that day and her crew passed with flying colors. **SC**

ENS Gatlin is USS COMSTOCK's assistant first lieutenant.



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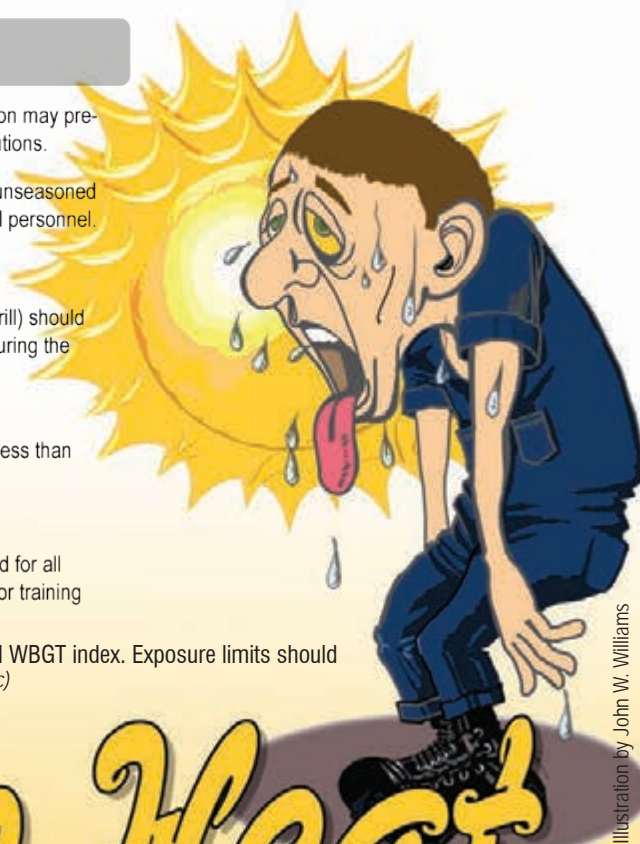
LT Nickolaus Kesler, safety officer aboard the amphibious assault ship USS KEARSARGE (LHD 3), communicates with the bridge while measuring wind speed as the ship approaches the fleet replenishment oiler USNS LARAMIE (T-AO 203) and the amphibious dock landing ship USS CARTER HALL (LSD 50) for a replenishment-at-sea. (U.S. Navy Photo/MC2 Jonathan Vargas)



WBGT AS A GUIDE IN REGULATING INTENSITY OF PHYSICAL EXERTION IN HOT WEATHER

WBGT Index (F)	Intensity of Physical Exercise
< 81.9	No flag condition. Extremely intense physical exertion may precipitate heat exhaustion or heat stroke. Take precautions.
82 - 84.9  Green Flag	Discretion required in planning heavy exercise for unseasoned personnel. This is a marginal heat stress limit for all personnel.
85 - 87.9  Yellow Flag	Strenuous exercise and activity (e.g., close order drill) should be curtailed for new and unacclimated personnel during the first three weeks of heat exposure.
88 - 89.9  Red Flag	Strenuous exercise curtailed for all personnel with less than 12 weeks training in hot weather.
90 and Above  Black Flag	Physical training and strenuous exercise suspended for all personnel (excluding operational commitment not for training purposes).

Wearing of body armor or NBC uniform adds approximately 10 points to the measured WBGT index. Exposure limits should be adjusted accordingly. (Source: Naval Medical Center Portsmouth, Boone Branch Health Clinic)



Arabian Heat

By IS1(SW/IDW/AW) Thomas A. Irwin, USS O'KANE (DDG 77)

Before returning to home port in Pearl Harbor following a nine-month deployment, USS O'KANE spent most of 2014 in the Arabian Gulf. Anyone who has deployed to the U.S. 5th Fleet – on land or at sea – knows that the Gulf has very little rain. Daily temperatures and humidity levels are extremely high during the summer months.

An average August day in Manama, Bahrain has a high temperature of 100 degrees Fahrenheit, with humidity ranging from 40 to 100 percent. Although O'KANE operated in all areas of the Gulf, the crew generally experienced the same temperatures and humidity levels as Bahrain. O'KANE participated in Operation Inherent Resolve and maritime security operations requiring a high operational tempo.

The crew regularly conducted flight quarters; replenishments at sea (RAS); drills for damage control (MOB-D), engineering (MOB-E), and seamanship (MOB-S); and small-arms qualifications.

On top of this demanding environment, O'KANE's crew maintained a culture of fitness throughout the deployment. It was not unusual to walk topside and see several Sailors working out on the aft missile deck in the afternoon heat. It was a priority for O'KANE's Sailors to have options for regular workouts, which helped alleviate stress. The crew was able to sustain physical readiness throughout the nine-month deployment.

The heat and humidity of the Gulf — combined with high stress and physically demanding work — posed a serious challenge to the health and safety of the crew. Commands normally observe flag warnings and prohibit topside work involving heavy exertion and workouts during a black-flag condition. For O'KANE, this method would have kept the crew from doing topside work or workouts for almost 80 percent of the deployment.

Keen situational awareness was a key factor in overcoming this challenge. It helped control heat

exposure and prevent heat-related injuries. The leadership and crew followed the heat-stress program guidelines, using the physiological heat exposure limit (PHEL) curve and stay-time model for evolutions. These guidelines were strictly enforced both internal to the ship and topside, from RAS to personal workouts. The PHEL curve model is typically used as an engineering watchstanding tool, but O’KANE and its crew effectively adapted it to all facets of deployment life.

Each day, the independent duty corpsman (IDC) conducted a wet bulb globe temperature (WBGT) survey at 0800 and 1200. The WBGT survey measured the overall temperature and humidity, helping determine how long personnel could remain in that environment based on their level of exertion. Light exertion allowed for longer stay times, and heavy exertion allowed for shorter stay times in accordance with Chapter B2 of the “Naval Safety and Occupational Health Program Manual for Forces Afloat” (OPNAVINST 5100.19E).

The IDC also posted a sign listing an updated WBGT and the stay time for both light and heavy exertion (including exercise) on all airlocks leading to the weatherdecks. The signs were prominent and easy to read, so Sailors knew their limits when exiting the ship.

Heat stress was also addressed within the skin of the ship. O’KANE had installed WBGT thermometers in engineering spaces in support of the automated heat-stress survey system. The ship’s engineering department used a time-weighted mean method to determine stay times for personnel who stood watch in these spaces.

For special evolutions such as RAS, small-arms qualifications, and sea-and-anchor detail, O’KANE leadership enforced stay times for watchstanders based on exertion levels. Prior to every evolution, leaders and safety observers briefed both predicted temperature and stay times. The watch bills were written accordingly, with reliefs ready to take over once the watchstander had reached the stay time.

O’KANE’s success is a testament to the ship’s culture of safety. All hands were aware of the heat-exposure limits, and leadership enforced those limits. Sailors were able to relieve stress through regular workout programs, which supported both mental and physical health. By adapting the PHEL system to topside heat stress, O’KANE was able to maintain operational readiness the entire time. **SC**

IS1 Irwin wrote this article while he served as an intelligence specialist aboard USS O’KANE.



During this deployment, O’KANE completed an astounding number of high-risk evolutions without a single incident:

- 105 flight-quarters (consisted of 235 deck landings and 23 vertical replenishments)
- 23 small-boat operations
- 29 underway replenishments
- 3 precision anchorages
- 26 sea-and-anchor details
- 36 small-arms qualifications

Clockwise from left: BMSN Jesse Lopez and BMSN Brock West receive pallets of supplies under the POIC, BM1(SW) Gabriel Reyes, and safety officers LTJG Andrew Musgrove and BMC(SW) Neizen Pasqual, during a replenishment at sea on USS O’KANE (DDG 77). (Photo courtesy of USS O’KANE)

Just Another Day

By AN Jeremy Taylor, USS NEW ORLEANS (LPD 18)

Flight quarters are an exciting, challenging, and moderately risky evolution on deployment. There are many hazards and obstacles to be aware of when a Sailor works the flight deck. In this particular story, the hazard was not to me, but to a helicopter flight crew for which I was the landing signalman enlisted (LSE). At the time, my actions seemed routine and simple, but I just may have saved a helicopter and its crew from a mishap.

It was the last month of an eight-month deployment. The ship had conducted flight quarters almost every day so, needless to say, we were in the groove. Flight ops had become routine and it had been a long deployment. We had been very fortunate to this point in the deployment with zero aviation accidents or injuries. We were experts in our roles, but were we too comfortable to prevent a mishap?

Like any other day, flight operations began with a safety brief and a discussion of what was going to occur that day. The plan was to launch three aircraft simultaneously. We were pretty comfortable in our responsibilities by this time, and all the LSEs were cracking jokes and calling out which aircraft they wanted to launch. We were tired but spirits were high since the end of the deployment was in sight.

Everything started off normally with my helicopter. They gave me the signal that they were going to go hot on the auxiliary power unit (APU). I called up to the tower, got the clearance, and signaled to them to start the APU. At this point, it is normal for the helicopter to remain on APU for a while. The LSE should be giving them the hold signal the entire time, so that the crew does not inadvertently start a main engine without clearance and red deck. The time can vary, but in this particular case, it was about 20 minutes before the pilots signaled that they were ready to start the engines. It's important to note the time, because as I stated, it had been a long deployment.

Many LSEs may not have paid much attention to the aircraft during this time; attention sometimes wanders to other things when you are doing something for the 200th time. Luckily for that crew, that was not the case with me. I take my job very seriously, and I realize that I am in a great vantage point being LSE compared to the crew in the helicopter. I am the last line of defense with regard to noticing something wrong before takeoff.


The pilot gave me the signal that he was going hot on engine number one. Engine started; no issues. Then engine number two. Once again, it was a normal start. After both engines were fully up and running, the crew chief conducted his pre-takeoff walk around. At this time, I could have let my mind wander while waiting. But I stayed focused. I noticed something on the ground near the aircraft cabin. At first, I thought it just might be a piece of trash that had rolled out of the cabin, but with this inherently risky evolution, there was always a concern for foreign object damage. It could be catastrophic for that "trash" to get sucked into one of the engine intakes.

I signaled the crew chief and pointed at what I saw. The crew chief took one look at the object, and then looked back at me and gave me the "cut-throat" signal — the signal to kill the engines. The pilots shut down the aircraft without incident.

The piece of "trash" turned out to be a blade stop brake for the rotor system. This part helps stabilize the rotor blades while they're spinning. Losing this critical item could have caused catastrophic failure of the rotor system, loss of the helicopter, and loss of the crew had the aircraft taken off. I didn't know any of this at the time; I just wanted to make sure the crew was aware that something was near their aircraft.

Afterward, all I could think about was complacency. Had I paid a little less attention, I might not have even noticed the object on the ground. Had I not been trained in crew resource management (CRM), I may have not had the assertiveness to speak up and let



the crew chief know what I had seen. I now see the importance of staying alert and doing the job correctly. Even the smallest omitted action or misstep can lead to disaster. I am glad I stopped the aircraft from taking off. When the crew chief told me that I had potentially saved all of their lives, all I could think to say was “You’re welcome, that’s what we are supposed to do.” 

AS3 James Rockwell guides a CH-53E Sea Stallion helicopter during take off from the flight deck of amphibious transport dock ship USS NEW ORLEANS (LPD 18). (U.S. Navy Photo/MC2 Gary Granger Jr.)

Shallow- Blackout

By Evelyn Odango, Naval Safety Center

Shallow-water blackout (SWB) results from hyperventilating or taking a series of short breaths before going underwater. It is the leading cause of drownings for experienced swimmers. Most people can hold their breath approximately one minute, but usually not much longer without training or special preparation. SWB can affect anyone, even physically fit swimmers. Some survive because of quick rescue efforts; others succumb.

The Danger Zone

By hyperventilating before going underwater, the swimmer decreases or eliminates the amount of carbon dioxide (CO_2) in the blood stream. Carbon dioxide supplies the body's primary urge to inhale while breathing. Taking a series of breaths expels the carbon dioxide, causing the CO_2 level to drop below normal. This allows the swimmer to stay underwater longer before feeling a need to breathe.

During the breath-hold, it takes a significant amount of time for the CO_2 to return to the normal level then to rise to the point where it stimulates breathing. While descending underwater, the levels of CO_2 and oxygen (O_2) will increase. During the breath-hold at depth, the body uses the O_2 and turns it into CO_2 , which will eventually signal the swimmer to breathe. During the ascent, the O_2 levels decrease even further while the CO_2 increases (a condition called hypoxia), causing the swimmer to lose consciousness.

Breath-Hold Diving and Consequences

Articles and reports on SWB-related deaths pervade safe-community websites and the news media, where survivors tell their stories so others may live. Warning signs are going up in major cities' recreation centers and pool houses. Reuter's news agency reports that New York City and Santa Barbara have already banned breath-holding in public schools.

Extended breath-holding after hyperventilation is not a safe procedure, and the Navy community is not immune to the danger of this phenomenon. The U.S. Navy Diving Manual states that hyperventilation is a common cause of breath-holding mishaps in swimming pools. Although hard to track, SWB-related deaths have been documented for decades.

In October 1998, an article in the *Navy & Marine Corps Medical News* reported about the drowning of three Sailors who succumbed to SWB during training. According to the report, one of the victims was a chief

-Water



Image Source: Aquatics International

WHO IS AT RISK:

- Free-Divers
- Special Forces Combat Divers
- Snorklers
- Competitive Swimmers
- Spearfishing Divers
- Marine Raiders

WHERE IT CAN OCCUR:

- Pool
- Lake
- River
- Ocean

SWB can occur in any body of water, regardless of depth.

SHALLOW WATER BLACKOUT RESULTS FROM HYPOXIA (LOW OXYGEN) TO THE BRAIN.

petty officer who was a skilled swimmer. He died alone in the base pool.

In 2013, a U.S. Air Force Safety Investigation Board polled more than 3,300 airmen who regularly swam as part of their workout routine; of that number, 86 percent were not aware of SWB. During the same year, the Pacific Air Forces (PACAF) safety investigation of an airman's drowning in an underwater training led to changes in the service's high-risk activities program. Personal risk management, such as having a swim buddy, has become a major component of this program.

Recently, the "U.S. Navy Diving Manual" has also been updated. The revisions from November 2014 effect changes in mishap and near-mishap reporting, planning and ORM, breath-hold diving, and calculation of scuba air supply. Commanders and safety leaders urge

instructors, swimmers, divers, and lifeguards to maintain constant awareness.

Retired Chief Hospital Corpsman (DSW) Dean Del Favero, formerly a diving specialist with the Naval Safety Center, emphasized an important safety reminder in an issue of the diving newsletter, *Diving Safety Lines*.

"Refresh your knowledge on breath-hold diving," he said. In an email, Del Favero added that "breath-hold diving is rarely performed in Navy diving, so it is a rare occurrence for our community."

The Navy prohibits the technique. It is, however, practiced quite often in special operations training. The diving manual also specifically states, "breath-hold diving shall be confined to tactical and work situations that cannot be effectively accomplished by the use of underwater breathing apparatus." The manual further

A Naval Diving and Salvage Training Center instructor stands ready to offer assistance to a diver student if he is not able to regain his own air supply during a problem solving exercise at the pool confidence-training portion of the student's course. Students are trained to stay calm during loss-of-air situation while following carefully supervised procedures to regain their air supply without going to the surface. The school is located in Panama City, Fla., and is the center for navy diver training. (U.S. Navy Photo/PHC Andy McKaskle)



states, “hyperventilation shall not be practiced because of the high possibility of causing unconsciousness underwater.”

Call for Awareness

SWB can affect anyone at any time. Victims typically have no prior medical problems, are physically fit, and give no warning. In recent years, a series of SWB-related drownings involved victims between the ages of 15 and 26. They had all been holding their breath underwater.

An organization called Shallow Water Blackout Prevention has started a movement to increase awareness and promote prevention after the death of Gene “Whitner” Milner, who died at the age of 25 in his family’s swimming pool. According to the organization’s website, Milner was performing hypoxic training to increase his dive time for spear fishing. After his death in 2011, his family founded the organization to prevent senseless deaths caused by SWB.

Similarly, retired surgeon Dr. Ernest Campbell, who is also an avid diver, hosts a website that offers information about diving and undersea medicine for the non-medical divers and swimmers. According to the website, shallow-water blackout was a hot research topic for diving physicians in the 1960s, when they worked out the basic physiology of this phenomenon. They also studied the case histories of SWB victims, identifying several factors that can contribute to this condition. These include hyperventilation, exercise, a competitive personality, a focused mindset, and youth.

The website (www.scuba-doc.com) further explains that “medical researchers feel that many pool deaths, classified as drownings, are really the result of shallow water blackout. Most victims are male adolescents and young adults attempting competitive endurance breath-holding, frequently on a dare. Drowning victims, especially children, have been resuscitated from long periods of immersion in cold water 30 minutes or more. The same is not true for victims blacking out in warm-



DROWNING STATISTICS

Naval Safety Center Data, FY08-15
(Oct. 1, 2007 - June 8, 2015)

MARINE CORPS FATALITIES

FY	Off Duty	On Duty
2008	1	0
2009	6	0
2010	4	2
2011	3	0
2012	4	0
2013	1	0
2014	2	1
2015	0	0
Total	21	3

NAVY FATALITIES

FY	Off Duty	On Duty
2008	7	1
2009	5	3
2010	2	1
2011	4	1
2012	4	1
2013	5	5
2014	5	0
2015	0	2
Total	32	14

Until the two recent on-duty drownings, there had been no SWB-related death since 2001. We had eight total between 1990 and 2001.

PREVENTION STRATEGIES

- ▶ Do not practice prolonged breath-holding. Institute and enforce a ban on any prolonged, repeated, and competitive breath-holding activities.
- ▶ Inform parents and swimmers why breath-holding activities are not allowed.
- ▶ Never hyperventilate.
- ▶ Underwater breath-holding should never be encouraged, but if practiced the rule of thumb for safety is: **One Breath-Hold, One Time, One Lap, ONLY.**
- ▶ Never swim alone.
- ▶ Repetitive breath-holding increases risk of SWB. If breath-holding underwater, a buddy must be next to you tapping you on your shoulder so you can signal that you are OK. Your buddy's total focus needs to be you and your safety. The buddy should never breath-hold with you. Do not rely on lifeguards. SWB is difficult to detect above water.
- ▶ Understand that any strenuous exercise performed underwater drastically decreases the amount of time a swimmer can stay submerged.
- ▶ Never hesitate; if a swimmer is sitting motionless on the bottom of the pool pull them out immediately.
- ▶ Train lifeguards on the dangers of hyperventilation and shallow water blackout.

Sources:

Pacific Air Forces Safety

West Bend Mutual Insurance Company/Culture of Safety

water swimming pools. Warm water hastens death by allowing tissues, especially brain tissues, to continue metabolizing rapidly; without oxygen, irreversible cell damage occurs in minutes.”

It takes a concerted effort between command leaders, safety supervisors, trainers, swimmers, and divers to mitigate the hazards of underwater activities. Educate family members and friends about the dangers of breath-holding or hyperventilating. If you – or someone you know – have been affected by or are at risk

for SWB, stay proactive. Generate action and discussion by sharing lessons learned, improving high-risk activity programs, maintaining awareness, and making decisions at the right level. **SC**

Sources for this article include the Pacific Air Forces Safety, Bureau of Medicine, West Bend Mutual Insurance Company, and the U.S. Navy Diving Manual.

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Ms. Odango is the editor of Sea Compass and Decisions magazines.

ONLINE RESOURCES

Sea & Shore Articles: “The Facts About Breath-Hold Diving,” “Shipmates Who Became Victims,” “Shallow-Water Blackout: It’s No Joke,” and “Tips to Avoid Becoming a Victim.”

<http://www.public.navy.mil/comnavsafecen/pages/media/magazines/sea%20compass/archives.aspx>

U.S. Navy Diving Manual (SS521-AG-PRO-010)

http://www.supsalv.org/00c3_publications.asp

Shallow-Water Blackout Prevention

<http://shallowwaterblackoutprevention.org>

Sometimes

Humor Teaches Us Something

By Christopher Jones, Naval Safety Center
Photos by John W. Williams

Welcome to the latest edition of the Summary of Mishaps, a.k.a the Friday Funnies. Actually, this is not the latest edition – it’s a tribute to the beloved blog and to the man who, for the last 13 years, has combined mishaps, stupidity and humor in an instructive way.

Derek Nelson is the assistant department head for the media department at the Naval Safety Center. His responsibilities include supervising the editing process for the magazines (including *Approach*, *Decisions*, *Mech*, and *Sea Compass*). One of his favorite duties is selecting the Photo of the Week. Nelson chooses the best photograph that depicts what he summarizes as “people doing stupid stuff” to show his audience what not to do in a humorous but informative way.

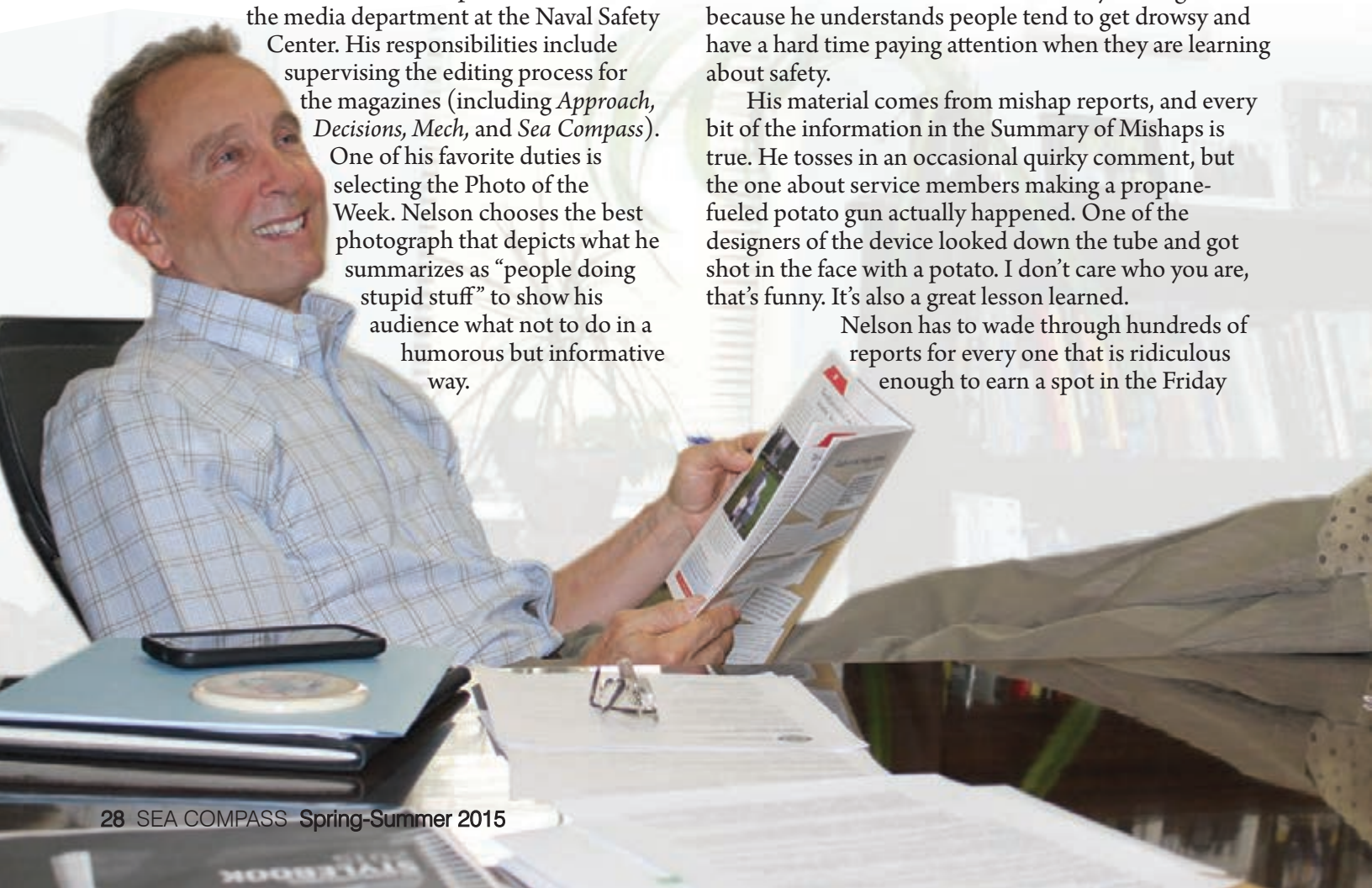
His claim to fame, however, is the Friday Funnies, distributed as a Navy safety message.

“The Friday Funnies is a very unusual Navy message because it’s intended to be humorous” Nelson said. “In the world of safety there are tons of serious and sometimes boring products.”

Nelson combines humor with safety messages because he understands people tend to get drowsy and have a hard time paying attention when they are learning about safety.

His material comes from mishap reports, and every bit of the information in the Summary of Mishaps is true. He tosses in an occasional quirky comment, but the one about service members making a propane-fueled potato gun actually happened. One of the designers of the device looked down the tube and got shot in the face with a potato. I don’t care who you are, that’s funny. It’s also a great lesson learned.

Nelson has to wade through hundreds of reports for every one that is ridiculous enough to earn a spot in the Friday



Funnies. Twisting your ankle on an icy basketball court isn't enough. Riding your motorcycle while wearing bedroom slippers and losing control on a patch of wet grass could be in the next edition, thus making you an example of what not to do. That one was in an October, 2005 edition.

"I look for incidents that involve poor decision-making," he explains. "It's the human factor that people see when they look in the mirror."

His method appears simple. He reads the short narratives of the mishap, usually three or four lines. If the narrative seems routine or mundane, he skips to the next narrative. If the mishap involves a coconut or raccoon, Nelson probes more deeply.

He puts in just enough information (such as time of day, rank, and general location) so his readers get a sense of reality, but he removes identifiable information, such as names and specific commands. In this way, he allows a subject to save what little dignity remains after trying to grab a remote-controlled airplane while its propellers are spinning. Yes, that did happen. It can be found in the *Best of the Friday Funnies* special-issue magazine.

In 2002, Nelson inherited the task of writing the "Funnies" from a former chief of staff, Bill Mooberry, who had provided the funny yet important safety message as far back as the 1980s.

"He was truly hilarious" Nelson said. "My sense of humor is much dryer than his was."

Nelson takes pride in the fact he has contributed to mishap-prevention efforts for Sailors and Marines during his three-decade-plus career at the Naval Safety Center. People have contacted him to say they took an extra five minutes to get a ladder instead of using a table and chair because they "didn't want to end up in the Friday Funnies."

"I treasure the fact the Navy has a sense of humor," he said. "It is part of the reason why I've been able to stick around so long."

Nelson has never had a hard time finding material. It seems he has read a mishap about every possible way a person can do something wrong.

"You shouldn't have to learn the hard way," he said. "But some people seem determined to."

What about when he passes on the task of writing the Funnies and someone else takes over? The seasoned author has a simple wish: "I hope it makes me laugh."

One of his favorite quotes is from the movie "Spinal Tap": "There's such a fine line between stupid and clever."

That line will be drawn over and over every week, thanks to the Sailors and Marines who announce, "Hey, check this out," and the man who shares the story with the rest of us.

That's all for this time students, class dismissed. **SC**

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Mr. Jones is the Naval Safety Center's social media manager.



Derek Nelson, a seasoned writer and author, talks about turning plain safety messages into priceless life-saving lessons. People have contacted him to say they took an extra five minutes to get a ladder instead of using a table and chair because they "didn't want to end up in the Friday Funnies."

I Survived a Rip Current

The story below originally appeared on the National Weather Service (NWS)/National Oceanic and Atmospheric Administration (NOAA) website. It was submitted by a rip current survivor. For more rip current survivor stories, visit the NWS/NOAA website at http://www.ripcurrents.noaa.gov/real_life.shtml.


Do you have a survival story (on duty or off duty) you would like to share in *Sea Compass*? Contact us at safe-seacompass@navy.mil.

Greg's Story ...

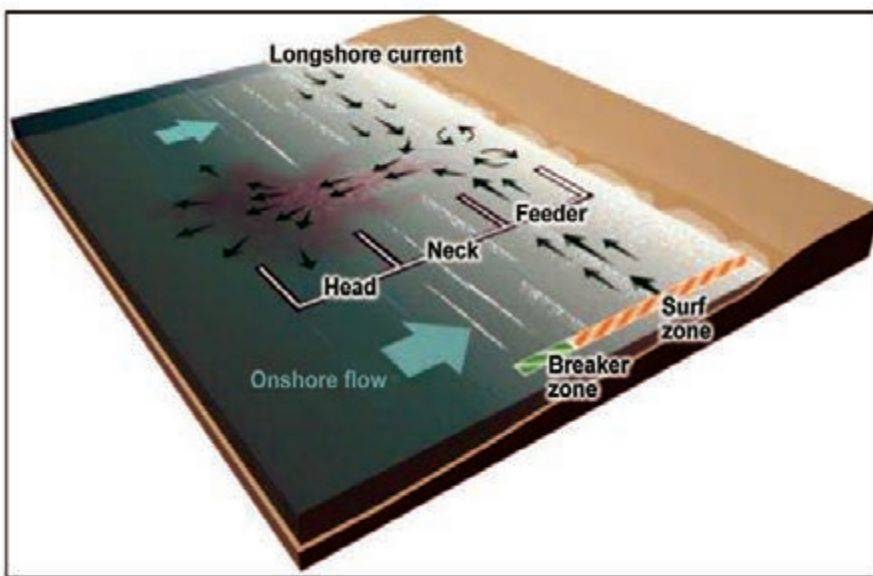
It was August 2011, and a tropical storm had just passed but was well out to Bermuda. I was body surfing with my boogie board on Figure Eight Island, N.C., with some surfers. The waves weren't breaking much closer to shore, so I decided to paddle out to where the surfers were in head deep water. Finally, a wave came that the surfers caught and rode. I was out for several more minutes expecting the surfers to return where I was. Instead they stayed in much closer to shore. I then realized that I couldn't hear the waves anymore. There were also bubbles on the surface all around me, but they didn't seem to be moving. I realized I was caught in a rip current.

I could see my wife and the beach umbrella getting smaller and smaller on the shore. She was looking in my direction, but never saw me waving for help.

I tried to swim with the boogie board at first, but if you've ever tried to do that you know that won't work. I kept it with me though using the side stroke to swim. I had watched the weather channel NOAA warnings and knew what to do when caught in a rip current.

I remembered to swim parallel to the shore for a while and then make my way back to shore. I was so exhausted when I made it to shore that I dropped. Nobody on the beach noticed what happened. I kissed the ground. 

Downloaded from NWS/NOAA website:
June 9, 2015.



Coastal scientists have been investigating rip currents for more than 75 years. This research has been conducted through field observations and measurements, laboratory measurements and wave tank experiments, and computer and numerical modeling. The mechanics of rip current development are complex and involve interactions between waves and currents, waves and water levels, waves and the shape of the nearshore bottom (bathymetry), as well as wave-wave interaction. Rip currents can occur along any coastline that features breaking waves. Scientific investigations of wave and current interactions along the coast have shown that rip currents are likely present on most beaches every day as a component of the complex pattern of nearshore circulation.

For more on the science of rip currents, go to <http://www.ripcurrents.noaa.gov/science.shtml> (Source: NWS/NOAA)

Rip Currents vs. Rip Tides

Rip currents are not rip tides. A specific type of current associated with tides may include both the ebb and flood tidal currents that are caused by egress and ingress of the tide through inlets and the mouths of estuaries, embayments, and harbors. These currents may cause drowning deaths, but these tidal currents or tidal jets are separate and distinct phenomena from rip currents. Recommended terms for these phenomena include ebb jet, flood jet, or tidal jet.

What is Undertow?

An often misunderstood term, undertow refers to the backwash of a wave along the sandy bottom. After a wave breaks and runs up the beach face, some of the water percolates into the sand, but much of it flows back down the beach face creating a thin layer of offshore-moving water with a relatively high velocity. This backwash can trip small children and carry them seaward. However, the next incoming wave causes higher landward velocities, pushing them back up on the beach. Undertow does not pull you underwater or out to sea.

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.

www.public.navy.mil/comnavsafecen/pages/orm/ORM.aspx



A - Assess the situation.

B - Balance resources.

C - Communicate to others.

D - Do and Debrief the event.



Ben Deleon, left, a volunteer surf instructor, and Pfc. Job I. Depass, a patient in the Army Warrior Transition Unit at Naval Medical Center San Diego, leave the water after a surfing lesson. (U.S. Navy Photo/ MCSN Clay M. Whaley)



Preserving Combat Readiness

U.S. Navy File Photo/SN Andrew K. Haller

Risk is inherent in all tasks, training, missions, operations, and in personal activities no matter how routine.

Human Error The most common cause of task degradation or mission failure, specifically the inability to consistently manage risk.

ORM: OPNAVINST 3500.39C

SAFETY CENTER

Saving Lives




U.S. Navy File Photo/MC3 Caine Storino

Operational Risk Management

Reduces or offsets risks by systematically identifying hazards and assessing and controlling the associated risks allowing decisions to be made that weigh risks against mission or task benefits.



A large group of crew members in blue camouflage uniforms are posed in many rows on the deck of a ship. In the background, a massive, five-bladed propeller is visible, along with the ship's hull and various pipes and equipment. The scene is brightly lit, suggesting daylight.

“ I’m proud of how the ship came together as a team. It showed tenacity and resolve to answer all bells and knock a critical [assessment] out of the park.” ”

— USS RUSSELL Commanding Officer CDR James Harney