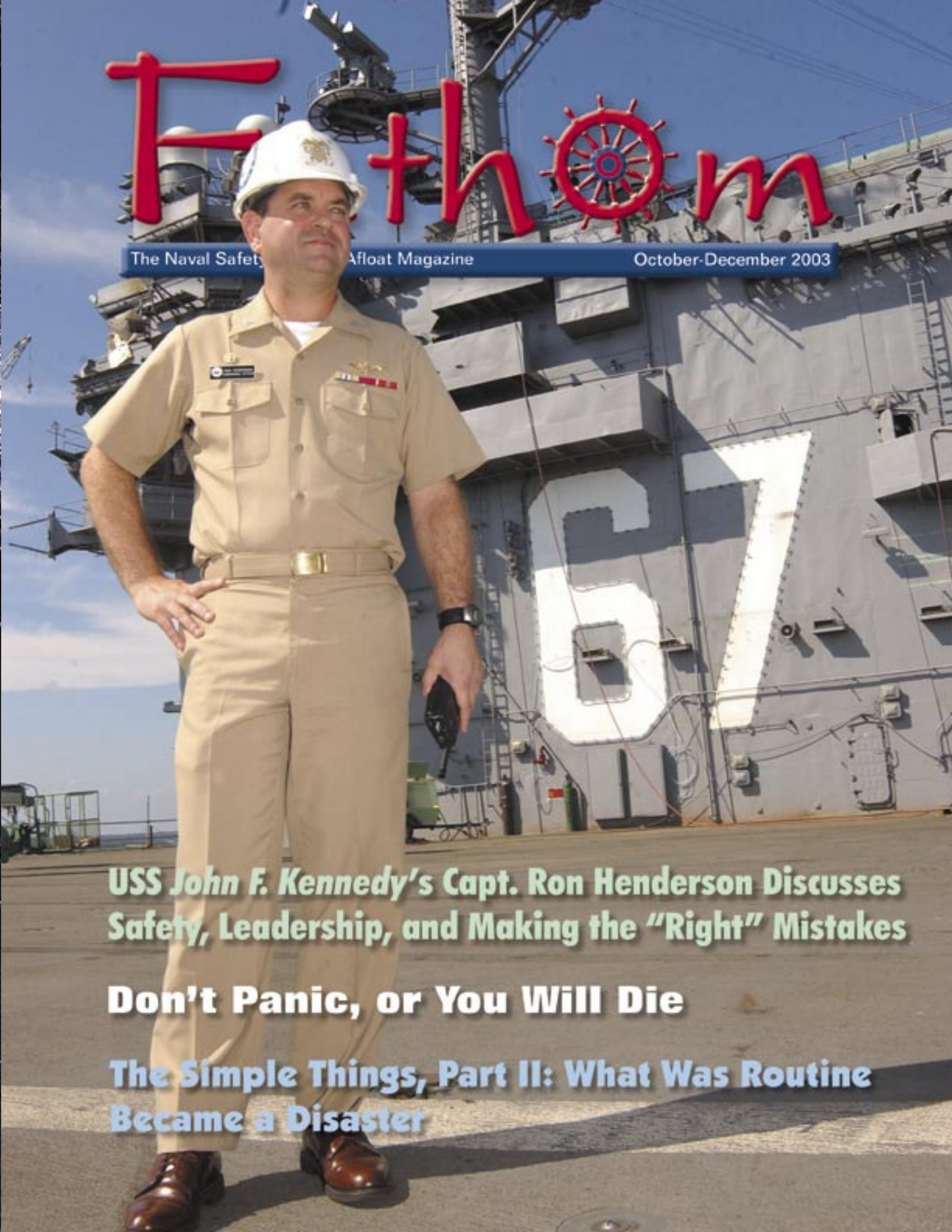

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The Naval Safety Afloat Magazine October-December 2003

USS *John F. Kennedy*'s Capt. Ron Henderson Discusses Safety, Leadership, and Making the "Right" Mistakes

Don't Panic, or You Will Die

The Simple Things, Part II: What Was Routine Became a Disaster

Fathom

The Naval Safety Center's Afloat Magazine **October-December 2003**

Volume 35, Number 4

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Mishaps waste time and resources, and they take our Sailors and Marines and civilian employees away from their units and workplaces and put them in hospitals, wheelchairs, and coffins. Mishaps ruin equipment and weapons, and diminish readiness.

This magazine's goal is to help make sure personnel can devote their time and energy to the mission, and that any losses are from enemy action, not from our own errors, shortcuts or failure to manage risk.

We believe there is only one way to do any task. Follow the rules and take precautions against hazards. Combat presents its own inherent hazards; we must learn to work right before engaging in combat so we do not compound its dangers.

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POSTMASTER: *Fathom* (SSN 0014-8822) is published quarterly by the Naval Safety Center
Periodicals postage paid at Norfolk, Va., and at additional mailing offices
Send address changes to:
Commander, Naval Safety Center
Attn: *Fathom*, Code 74a
375 A St.
Norfolk, VA 23511-4399

Send articles and letters to the address above, or via e-mail to the editor at fred.klinkenberger@navy.mil. Visit us on-line at http://www.safetycenter.navy.mil.

Cover

The commanding officer of USS *John F. Kennedy* (CV 67), Capt Ronald H. Henderson Jr., stands on the flight deck as the carrier completes its nine-month, pierside Extended Service Repair Availability (ESRA) in Naval Station Mayport, Fla. *Photo by PH3 Joshua Karsten*

Back Cover: USS *La Salle*'s (AGF 3) newest Sailor is Petty Officer 3rd Class Theodore Van Gogh, a three-foot-tall teddy bear. He has traveled the world with a USO tour to teach children about art and culture, but he always returns to his "homeport" of Summerville, S.C., where Van Gogh volunteers at Camp Happy Days, telling his "sea stories" to children who have cancer. The forward deployed *La Salle* is the flagship for Commander, U.S. Sixth Fleet and is homeported in Gaeta, Italy. *Photo by JOC(AW) Monica Hallman, USS* La Salle *Public Affairs*

Features

Departments

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION 01 October 2003
The Unitied States Postal Service requires all publications publish a statement of ownership, management and circulation.

Date: 01 October 2003
Title of Publication — *Fathom*
USPS Publication No. — 0014-8822
Frequency of Issue — Quarterly

Location of Office of Publication
Commander
Naval Safety Center
375 A Street
Norfolk, VA 23511-4399

Publisher — U.S. Navy
Editor — Fred Klinkenberger
Owner — United States Navy
Total no. copies printed — 17,175
No. copies distributed — 16,925
No. copies not distributed — 250
Total copies distributed and not distributed — 17,175
Issue Date for Circulation Data Above — October-December 2003

Taking a Turn on Looking Out for Each Other

Throughout my Navy career, I've seen what I like to call the goods and the bads of our day-to-day operations. I suspect we've all seen these things. On the good side, I think of all the safety programs and initiatives we've developed over the years to improve the lives of our Sailors, Marines, and civilians. These efforts produced safer working environments and lower mishap rates. They enhanced our ability to operate and to complete our mission. On the bad side, however, we've all seen the aircraft and ship mishaps and near-mishaps, as well as the traffic and recreational accidents, that cost us lives and valuable resources. In our profession, you can't do the things that we do so well every day without getting a first-hand introduction to the hazards and risks of naval life.

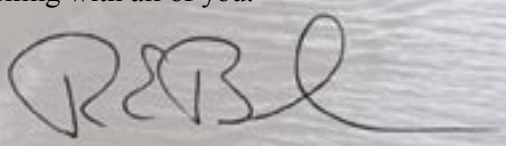
If you stop to think about what we learn throughout our lives, a lion's share of our knowledge comes from our parents. One of the most valuable lessons I learned from my parents was to look out for myself, as well as those around me. We could call those "growing up" lessons the beginnings of risk management, and, although it was different than today's operational risk management, the idea was there. Now that I've assumed command of the Naval Safety Center, I think of those early lessons and how they apply to this position and this command. Our job here is the same as the job of every command:

- to look out for the well-being of our Sailors, Marines and civilians,
- to ensure as safe a working environment as possible,
- to identify the hazards we all face in both our professional and personal lives,
- to educate everyone in the vital importance of risk management in everything we do, and
- to improve readiness so we can do what we do best—operate all over the world.

During the last 50 years, we've made some real progress in reducing our overall mishap rate. In the last 10 years, however, we've hit a fairly level plateau. The numbers change up and down a percentage point or two, but, overall, they're consistent. The bottom line is perhaps what has happened in the last five years: From FY98 to FY03, mishaps cost us 1,179 lives and $4.3 billion.

Today, the challenge is to reduce mishaps by 50 percent in the next two years. This goal requires the leadership and dedicated efforts of everyone. It requires some changes in the way we do things, what we expect of each other, and what we accept as operations normal. Finally, it requires every Sailor, Marine and civilian to take a turn on looking out for each other. Along those lines, our goal at the Safety Center is to provide every command with the tools, data, advice, and guidance necessary to prevent the next mishap. Our focus is the fleet.

It's an honor to be here, and I look forward to working with all of you.



RADM Dick Brooks
Commander, Naval Safety Center

DCAMS Brings Fresh Look to 21st Century Damage Control

By Fred J. Klinkenberger Jr., Naval Safety Center

DCAMS—Damage Control Action Management Software—evolved from research into past casualties and examining varied ways of displaying and passing on shipboard casualty information. It is based on information-display lessons learned from World War II damage reports and those from USS *Stark* (FFG 31), USS *Samuel B. Roberts* (FFG 58) and, most recently, USS *Cole* (DDG 67). With simple displays using a ship's side profile and deck plans, DCAMS provides superior tactical information so a shipboard casualty can be efficiently contained. Information then is graphically plotted with icons representing casualties, personnel and equipment locations.

DCAMS initially was designed to show the location of, and to manage, damage control equipment, but has expanded to manage information and enable shipboard DC personnel to more proactively control DC casualties. This shifts damage control from a defensive posture where everyone is trying to explain what's going on, to an offensive posture where everyone sees the same information plotted once and broadcast everywhere. Confusion is reduced and rapid response is more focused. DCAMS shows what the casualty is, the casualty's location, and the location of responding personnel. Such critical information gives a universal tactical picture for all—even at the battle-group command and higher levels—and helps those responding to the casualty, including off-ship assistance.

Developed for 16 ship classes including the newest such as the LPD 17 and DDG 51A flight IIA, DCAMS is an electronic, visual-representation tool that indicates and tracks damage and DC equipment status. It can even be a tool during new construction or shipyard overhaul. Damage-control readiness dictates knowing the ship backward and forward and from top to bottom.

Imagine being a pre-commissioning crew member and your ship is in the chaotic state of being built. You can use a computer to track and map compartments and all portable and fixed DC/FF/PP/CBR equipment thoughout the ship. You could go through the ship and pinpoint the location of certain equipment stowage brackets or where they are to be installed. Each passing day offers a better mental picture of the ship's layout and prepares you to fight a real casualty. Familiarization helps with training and ultimately quickens response time. Future DCAMS will bring wearable computers and real-time personnel locators, including live video from the casualty scene. Funding restraints have slowed the installation of laptops and IT21/ISNS local area network (LAN) drops into each DCRS and DC Central, but ships can use DCAMS software in a stand-alone mode. They also can put it onto the ships LAN since the software is certified.

Two key aspects of DCAMs are its new computer symbology that fully complies with NSTM 079 Vol. II, and portability (using laptop computers), unlike other electronic "big console" stationary systems. DCAMS—once fully integrated throughout the fleet—will reduce repair station and central control manning requirements and will significantly reduce paper documentation.

Most noticeable to veteran shipboard damage control professionals will be DCAMS' new symbology, based on graphic images and circles, not triangles. The symbology comes from years of studying symbols used in commercial aircraft safety pamphlets and in public places like Disneyland. Since DCAMS includes damage control training aids, symbology on aids had to be standardized. Today too many non-standard aids permeate non-DCAMS DC training.

DCAMS combines colors with symbols for DC team training. All ruptures are indicated by the same graphic (a ruptured pipe), and the pipe's color indicates what flows through it: red is a fire main, purple a JP-5 line, etc. Symbol colors match actual shipboard piping system hand wheels colors. Graphics also have letters identifying the piping to complement the hand wheel colors. The software's color-coded deck drawings indicate areas like watertight and fire zone bulkheads, a fire suppression coverage area, and more. DCAMS lets the DCA view all decks and offers "zoom" capability to close in on specific compartments.

DCAMS is password-protected at several levels. Originally in MS-DOS, it now operates in Windows NT 4.0 and Windows 2000 and will be part of the Navy's near-future Total Ship Training System (TSTS). It also offers a checklist of things-to-do during a casualty and for post-casualty cleanup.

More on DCAMS will appear in the Jan.-March 2004 Fathom. *Direct questions to Naval Sea Systems Command Code 05P4 (Damage Control and Fire Protection Engineering), Mr. Hank Kuzma at (202) 781-3634 (DSN prefix is 326) or e-mail kuzmahj@navsea.navy.mil.*

FOCUS ON

USS *Safeguard* (ARS 50) crewmembers maneuver a 26-ton amphibious assault vehicle (AAV) onto the ship's deck after recovering the AAV from more than 170 feet of water. The AAV was lost off the coast of Okinawa, Japan, following a training exercise last April. *Safeguard* is homeported in Sasebo, Japan.

U.S. Navy Photo

SM2 Robert Stickroth (left) and SM3 Detrse Johnson (right) treat SMSN Justin Rickenbaiker for potential injuries during a simulated general quarters drill aboard the destroyer USS *Cushing* (DD 985) while underway in the Pacific.

Navy photo by PH2 Erich Ryland

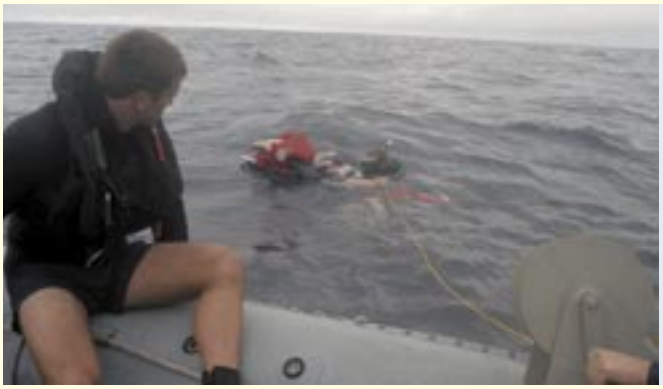
Aboard the destroyer USS *Cushing* (DDG 985), Petty Officer 1st Class Ben Bynum plots simulated battle damage, fires and repairs during a general quarters drill.

Navy Photo by PH2 Erich Ryland

Firefighting Sailors inspect an F/A-18 Hornet's exhaust outlets during a simulated aircraft fire in the USS *John C. Stennis* (CVN 74) hangar bay while the nuclear-powered aircraft carrier was conducting training off the southern California coast.

Navy Photo by PHAN Mark J. Rebilas

THE FLEET



A rescue swimmer loads Oscar—a training dummy used for man-overboard drills—onto a stretcher as AW2 Ryan Bates prepares to haul them aboard a rigid-hull inflatable boat (RHIB) during a search-and-rescue (SAR) simulation with USS *Ingraham* (FFG 61). The guided missile frigate was deployed with the USS *Carl Vinson* (CVN 70) Carrier Strike Group in the western Pacific Ocean.

Navy Photo by PHAN Jonathan M. Cirino

Aboard USS *George Washington* (CVN 73) PNSN Sara Young adjusts her shipmate's protective suit during a chemical, biological, radiological (CBR) general quarters (GQ) drill while the ship was deployed and conducting operations supporting Operations Enduring Freedom and Operation Southern Watch. Navy ships regularly conduct such drills to train crew members to minimize potential casualties in the event of such an attack.

Junior Reserve Officer Training Corps (JROTC) cadets shore up a hatch at Afloat Training Group, Middle Pacific, during damage control training. More than 50 cadets from across the U.S. participated in the week-long leadership school that included various Marine Corps and Navy activities. Along with experiencing the wet trainer, cadets also toured a surface ship and a nuclear-powered submarine.

Navy Photo by JO2 Tim Walsh

A USS *Chicago* (SSN 721) crewmember explains the Naval Firefighting Thermal Imager, used by Damage Control Systems Fire Detection Teams, to Russian Adm. Viktor Dmitrievich Fedorov. The Russian admiral commands the Russian Navy's Pacific Fleet. His *Chicago* tour was part of an official visit with Adm. Walter F. Doran, Commander of the U.S. Pacific Fleet.

Navy Photo by PH3 Casey L. James

It's All About Admitting, Learning From, But

Despite Doubled Work Completes Navy's Lon

Photos by PH3 Joshua Karsten

As this edition of Fathom *was going to press, USS* John F. Kennedy *(CV 67) was completing her nine-month Extended Service Repair Availability (ESRA) pier side in her Mayport, Fla., homeport. It was the longest ever such overhaul of a Navy ship outside a shipyard. The ship's commanding officer, Capt. Ronald H. Henderson, Jr., spoke with* Fathom *and discussed how he felt when he assumed command of* John F. Kennedy *after the ship failed an INSURV inspection in late 2001. He shares with* Fathom *readers his thoughts on why the ship failed INSURV, his leadership philosophy, and how the ship has risen like the mythical Phoenix rose from ashes to fly again.—Ed.*

You were in command of USS *Juneau* (LPD 10) in Sasebo, Japan when you received orders to take command of USS *John F. Kennedy*—how did you feel?

I was overwhelmed and felt something like what Harry Truman must have felt after Franklin Roosevelt died. I hoped I was up to the task that lay before me. When I reported to the *Kennedy*, I found many safety and failsafe devices bypassed. Also, it seemed the ship was so intent on operational commitments that these commitments became the ship's number one priority. Now, this is not in itself bad, but making those commitments had hidden costs, as I was soon to find out. When it comes to safety—and some might consider this heresy—safety is not our number one priority. Our number one priority is operating safely. I'm a big believer in ORM, and this process had not been implemented. We embraced ORM principles, included ORM in every briefing, and we debriefed every major evolution. Those debriefs were brutally frank. It wasn't, "Captain, everything went great." It was, "OK, here's what didn't go perfectly" or "How can we do it better?" I attended all of those debriefs, and there were times when I would say, "OK, this is what I, as your captain, didn't do well."

What is your perspective on criticism and making mistakes?

I think once subordinates see the captain is willing to accept constructive criticism without giving up his responsibility they start to get this idea that it's OK to make a mistake. It's OK to make the right kind of mistake. We're human, and we will all make mistakes. The real crime is to repeat them, in other words, to not learn from them.

The purpose of our debriefs was not so much to assess blame—finding some guilty "victim" to hang when something has gone wrong—but, to examine why it went wrong and discuss what we could have done to prevent the problem. What is really important is, "How do we prevent recurrence?"

What makes me really upset is when we make the same stupid mistake over and over again. I know people are going to make errors, but when you have a personnel failure that causes a casualty there are a limited number of ways that can happen.

k Package, John F. Kennedy Successfully ngest-ever Pierside Overhaul

Maybe it happened because someone failed to follow a written procedure. Usually that procedure is written in blood. There are two reasons someone fails to follow a procedure: either because he doesn't know the procedure—which is a training or leadership deficiency—or it's a personal failure. In other words, that person is unwilling to show the attention to detail required to follow the established procedure. I think it's important when you look back at a mishap or a casualty to figure out, "Was this because someone was negligent or because someone wasn't properly trained?"

If they were negligent, maybe that person shouldn't be in a position where his negligence could cause such problems. If so, we need to hold them accountable. If it's a training issue, that's something we can correct so it doesn't happen again, and we can learn from the mistake.

What did you find aboard the ship after you assumed command and were able to evaluate the task that lay before you?

Many safety features on equipment had been bypassed. We put a stop to that. More than that, there was an attitude here of leadership by fear and intimidation. Sailors were afraid. They were afraid of their leaders; they were afraid of making a mistake; and they were afraid of passing bad news because they didn't want to be the messenger who got "shot". They were afraid of admitting they had made a mistake. Of course, these are gross generalizations, but I would say that middle management—chiefs and officers—were the ones most reluctant to say that they had failed. One of the things I have tried to get people to do is to admit mistakes. I believe that rather than a weakness, it is a sign of great character to admit mistakes. I actually have more trust and confidence in someone who comes to me and says, "I didn't do this very well; here's where I fell down, and here's what I will do to prevent recurrence." First of all, it's big of them to admit that, and I have a lot more respect for that person than for the person who tries to buffalo me that he's perfect and that he's brilliant all the time.

When a person admits a mistake, it is often because of a training deficiency that we can correct. That's probably the biggest attitudinal change that I made. The "right kind" of mistakes are permitted—the right kind of mistakes meaning the mistakes you make because you don't have the right level of training, which we can correct, or the mistakes that you make because you're trying really, really hard and you just failed. You aren't up to the task either because you're tired or the task exceeds your capabilities.

I would rather have someone who's trying really hard and is failing occasionally than someone who isn't trying hard and is getting by on image.

I remember the chief engineer officer coming to me one time because we had suffered an engineering problem. The issue was a Sailor had failed to follow a procedure. The CHENG came to me with his head in his hands and thought I was going to shoot him. When I heard about the situation I said, "That's great because we had found the cause of the problem." I think the CHENG was surprised because he thought I was going to yell and scream at him, or yell and scream at the Sailor, or that I was going to be really perturbed that this bad thing had happened. In actuality I was quite pleased that it had happened because it pointed out a deficiency we could correct.

Shortly after the ship failed its INSURV inspection, a critical article appeared in the U.S. Naval Institute's *Proceedings*, titled, "Where Were the Chiefs?" Can you comment on that article?

I appreciate authors who contribute to *Proceedings* because it is an open forum where anyone can

speak their mind on professional issues. The first thing I would say about the *[Proceedings]* article is that the author began with, "If I was the captain of the *Kennedy*... " My rebuttal to that is, "Well, you're not." That's why captains wear the command star. Unless you're here you don't know the people. You don't know the situation, so you have no business throwing stones. He went on to write that he would fire every single leading chief on the *Kennedy*. I would argue that that would be throwing out the baby with the bath water. There were, indeed, some poor chief petty officers in the mess, and they have either left or are leaving. One or two of them had to be dealt with severely. I removed one chief and reassigned a few others. Nevertheless the chiefs on board were fine. The chiefs as a *[CPO]* mess—as a group—were weak. This was one of the things I noticed about the *Kennedy*. Everyone seemed to go about their jobs with blinders on; there was very little interest in other departments or helping other shipmates.

One of the first things I said to my department heads was, "I will evaluate you on what you do for departments other than your own." That was a shocker because there had been a "me, me, me" attitude. "If I make my fellow department head look bad, I'll look better" was a prevailing attitude. There was no cooperation among department heads, and that also applied to the chiefs—maybe even more so to the chiefs. There was no sense of CPOs as a community aboard the *Kennedy*. They came to work, they did their jobs, and they went home. As long as their little realm was secure, they weren't too interested *[in anything else]*.

This problem was one of the things my new command master chief attacked the day he got here. I have a great CMC, and the chief's mess is much, much stronger now than it was then. I'm not sure we have any individuals who are any better or any worse. They're the same individuals in terms of talent, but as a team they're a lot better. So I don't put much faith in that article, "Where Were the Chiefs?"

You know, there are two reasons why a chief might be ineffective. One is that he's not competent, and the other reason he's ineffective is he doesn't get any support from his chain of command. It was clear to me that there were a few chiefs in *Kennedy* who were, in fact, incompetent. But there were a lot of chiefs who weren't getting any support from the chain of command. So, to blame chiefs for all our woes is misplaced.

Can you talk about the state of PMS and damage control you discovered when you assumed command of the ship?

Clearly, PMS aboard *Kennedy* had not been emphasized, which was one factor in the failed INSURV. In that sense, INSURV was the best thing that ever happened to us. We asked for a lot of help, and we got a lot of help from the AIRLANT 3M team. They came out to visit us four times on deployment and each time they saw a big improvement in our ability to conduct 3M and PMS. In fact, when they inspected us, we scored an 80, which was the highest a CV had scored under the new system. I believe we were the first Atlantic Fleet CV to pass that inspection. That's not to bad-mouth the other ships. It is probably a reflection of the enormous attention we got on PMS and the help we got from AIRLANT.

We faced a different challenge with SRA (selected restricted availability) because PMS often does not address what happens to your equipment during SRA. We're in a difficult position right now. It's going to take months and months and months of focused effort—including focusing on PMS—to get us back where we belong in terms of material condition.

One of the first things I said to my department heads was, "I will evaluate you on what you do for departments other than your own."

Damage control was another area where we were in good shape through deployment because of all the training the ship had done getting ready. Although I benefited from that, I wasn't involved in it because I took command at sea *[while the ship was]* headed east. So, I inherited a damage control setup that was good, and in fact one of the reasons they were so good was that they were having actual emergencies all the time. They got very good at handling the real thing, and we had our share of casualties and excitement.

So, our damage control posture was excellent, but that all changed when we went into overhaul. In overhaul so much gets ripped apart and taken off the ship, and we're just now beginning to put it all together. For example, I have 17 hi-cap *[high capac-*

ity AFFF] stations, and we had a massive amount of work done on all of them. Now we are getting ready for a light-off assessment, and we need those hi-cap stations, but the contractor hasn't put them back together correctly. So, my damage controlmen are busy—trying to fix toilets so I can move the crew back aboard, fix leaky pipes, fix water heaters for hot showers, and fix air conditioning coils so Sailors can have cool racks when they move back aboard. They were also trying to run fire drills to demonstrate firefighting proficiency for light-off assessment, inventory repair lockers, and maintain or replace old and worn equipment. In the middle of all that they now had to repair 17 hi-cap stations. These guys are working twenty hours a day, seven days a week right now, and they've been doing that for two months. They're tired and there's a safety aspect to that, isn't there? We're challenged here because of poor contractor performance, because of the summer Florida heat, and because of demands placed on us. This is a very tough time right now, probably the toughest time in the ship's life, coming out of overhaul.

In fact, I think this is harder than being in combat or on cruise. We do get to go home to our families. That part is nice but, in terms of the work, my engineers have worked seven days a week for the last two months to try to complete everything. This overhaul is huge, which many people don't understand. It's the largest overhaul ever conducted outside a shipyard. The ship's force work package has grown from 40,000 man-days to 75,000 man-days. We were told we couldn't accomplish 40,000, but now we're on the verge of accomplishing 75,000. I am proud of them for that.

The civilian contractor workload has also expanded, from something like 250,000 man-days to 450,000 man-days. It's a huge amount of work we've undertaken. The amount of work that still needs to be done is huge, too. The ship was never SLEP-ed [service life extension program], and we're paying the price. Some things we are finding I call "time bombs" because we didn't expect the failures, and they have lain dormant since the 1996 overhaul. The [ship's] SLEP that was started in Philadelphia in 1996 was never finished because of BRAC *[base realignment and closure]* decisions. We have found several "time bombs," some of which could have had big safety implications. Once again, bad news is really good news in the long run.

Would it have been better had the ship gone into a yard?

That's debatable. I think that in some ways it would have been better, but in others it wouldn't have been. This overhaul has been a huge challenge with many setbacks but with many great successes. Like I said, no one thought we could do the amount of work we were originally assigned. The work we were originally assigned has roughly doubled, and now we're down on ourselves a little bit because we're a little behind. If you consider the growth we've had, I do not believe we really are behind.

What is your current duty-section structure?

We've remained in eight-section duty throughout the overhaul. Engineers have recently collapsed to four-section, and for our fire drills we're collapsing to four. I only do that as necessary. I want to stay in as many duty sections as I can. Most ships in overhaul are in three- or four-section duty. My manning has actually been excellent, and I have no complaints there. The Navy has supported me very well and has enabled me to maintain the manning level I need. So, *[with the tremendous work-package growth]* are we

behind, or are we ahead? If we were on our original work package we'd be done. But our work package has grown 52 percent, and if you look at the historical norm for aircraft carriers, 20 to 25 percent *[work package]* growth is what's expected. We were told our *[original]* package was too ambitious, and then we grew it 52 percent!

In a speech you gave about a month after you took command, you said to the crew, "Stay sharp, stay focused, stay safe. Use the training that has made you the best Sailors in the world. Trust in your faith and in your shipmates." Is the crew staying focused?

I think they are. They continue to amaze me with their good attitudes and willingness to tackle new challenges. You know, you would expect a ship in our situation to have very low morale and a lot of long faces. Don't get me wrong—Sailors are always grumbling, but—all in all—I think the morale here is good. The crew is focused. They are excited. They want to get out of port and go to sea, where we belong.

Keep in mind that I've had about 45 percent *[crew]* turnover since last deployment. Put another way—45 percent of my crew has never been to sea, ever, in any ship, on any ocean. They didn't join the Navy hoping to chip paint, they didn't join the Navy hoping to crawl through a vent plenum and needle-gun the rust. They joined the Navy to fix radars or move airplanes around the flight deck or operate machinery or whatever they joined the Navy to do. They want to go do that now that we are almost done with overhaul.

They're tired of being shipbuilders. It's time to get underway, and they know the way out of here is to pass these drills, pass LOA *[light-off assessment]*, get the ship fixed, and go to sea.

The Sailors who have been here for a while, particularly down in engineering where you have machinist's mates who have been on board for four or five years, are amazed because they've never seen any of this stuff fixed before. They were living with inoperable equipment for so long that they got used to it. They were used to "that pump over there in the corner never worked." I've had Sailors say to me things like, "Captain, I've never seen that pump work. We've had a job in on that for three years and couldn't get the resources to get it fixed." You might get away with that on an aircraft carrier because you have so many redundant systems. The CV was built that way to take battle damage, not to leave that redundancy at the pier. This, of course, is something the nuclear power community preaches all the time. "You don't leave redundancy at the pier."

Ship designers gave you eight boilers for a reason. It wasn't so that three of them don't have to work. Designers gave us eight boilers because we know that at any one point in time, one is probably getting some maintenance done on it, and another one might fail for some other reason. You can do very well on five boilers, but that isn't why they gave you eight—so that three could be broken. They gave you eight *[boilers]* because you need that kind of redundancy. In the past we had mortgaged our redundancy on this ship.

Do you have any final thoughts for *Fathom* readers?

We have to get out of the "zero defects" mentality while still maintaining high standards. The zero-defects mentality is a people killer. We have to stamp out this fear Sailors have. They shouldn't be afraid to tell their seniors there's something wrong, and seniors can't be afraid to listen. We need a little

less "career-ism," and we need a little bit more caring about our Sailors. Sailors will perform miracles. They're like flowers in the desert. If you sprinkle a little water on them, "poof!" they bloom and flower. We saw that here in *Kennedy.* The Sailors had rarely been praised before. You build on little victories. Somebody does some little thing right, and you make a big deal out of it. Suddenly, they realize that somebody cares about them. If you think about it, Sailors don't ask for much. Look at what we put them through. We put them in cramped little quarters, stack them like cordwood with no privacy or storage space. Tight conditions, long hours, relatively low pay (but getting better!), hazardous working conditions, sometimes unsanitary working conditions, and they do it gladly, even when we take them away from their families. They will do it gladly only if we recognize them for what they do, thank them a lot, pat them on the back now and then, explain to them why they're doing it—other than "because I told you so"—then tie it into the big picture of service to our nation and challenge them to be even better. I don't think any of these *[John F. Kennedy]* Sailors want to be failures. They all want to be successful, they all want to be proud of the ship, and (almost) all of them want to work hard. There are exceptions, not everybody is willing to make success happen. Like Vince Lombardi said, "Everybody wants to win, but not everybody is willing to do what it takes to win." That's one of my jobs *[as commanding officer]*: to motivate and inspire them and to lead them so they'll do what it takes to win. We as leaders don't always do that. We don't always enable them. So often we ask a Sailor to "plow a 40-acre field with his fingernails" and then we yell at him because his fingernails are dirty.

Look at my Sailors walking around the ship covered with paint. Are we on them because their coveralls are dirty? In fact, what we are doing is getting them some clean coveralls, and no Sailor should have to buy them because you ordered him to "paint that space." Every Sailor on this ship is going to get a new set of coveralls after this availability. It's like shedding the hard hats, it's a sign that ship repair is over and ship operations and training are now the priorities.

To summarize, I believe that we should hold our Sailors to the highest possible standards while taking the best possible care of them. An important aspect of this care for our Sailors is our safety philosophy, which is an open, frank and critical look at continual process improvement. This has served us well and kept us out of danger in completing the *JFK* overhaul. We'll be done soon. Look for *John F. Kennedy* and her Sailors underway, training to meet the nation's needs and serve when and where the President may direct.

"Don't Panic, or You Will Die"

By BMC(SW/DV) Michael Hardgraves, Naval Safety Center

It happened while I was stationed at the Consolidated Divers Unit (CDU) in San Diego. I was on a dive team tasked with installing a shaft wrap on a carrier, undergoing upkeep in Alameda, Calif.

A shaft wrap is designed to create a temporary seal around the propeller shaft from outside the ship so the permanent seal can be worked on from inside. A stern tube surrounds the shaft where it exits the hull to prevent waterborne debris from being sucked inside and damaging the seals.

Just another maintenance dive, right? And you probably think diving to 40 feet on surface-supplied air (with a Jack Browne) is easy. When what I'm about to describe happened, I was 40 feet below the surface, under an aircraft carrier, with zero visibility, and my dive rig knocked sideways on my face. I was choking on cold water, almost lost my self-control, and teetered on what I thought was the edge of imminent death.

Our dive plan included sending a 10-person dive team headed by a master diver and using the Fly Away Dive System One (FADS I) as our air source. The MK 1 band-mask was our primary dive rig. We also took the Jack Browne (you can guess how old I am), should we have to perform any enclosed-space diving, and a scuba bottle and regulator as the secondary air source for the diver going into the space.

Sealing a shaft includes using wooden plugs to plug all stern-tube deadlights (holes) from the outside and filling the two-inch gap—where the shaft exits the shaft end of the tube—with a homemade gasket. Divers aptly have named this gasket a "weenie." It is a piece of Samson-braid line, cut to length and wrapped in cheesecloth, which has been soaked in a brew of bees' wax, paraffin, vegetable oil, and resin. Once temporary seals are in place, suction is taken on the stern tube by rigging an eductor through a deadlight or through the gap between the shaft and the stern tube.

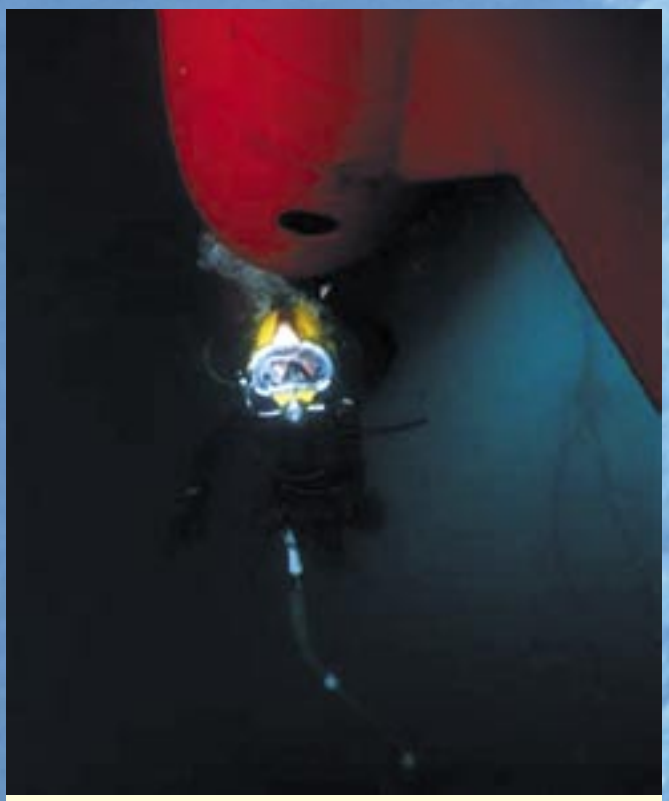
This is the Jack Browne rig the author was wearing during his harrowing experience. The Navy no longer uses this mask, which evolved from a 1938 design. The Jack Browne rig was the first commercially successful, full-face diving mask.

Water simultaneously is drained from the permanent seals inside the ship into the shaft-alley bilges. Sound-powered phones rigged between shaft alley and the dive station are used to communicate with the dive supervisor to inform him when the seals have stopped draining. During the wait, divers swim the length of the stern tube (more than 200 feet), to check for leaks in the free-flood area. They conduct

the checks by feeling for water flow through seams and holes; the process is time-consuming, to say the least.

An alternative is to enter the stern tube and wrap the shaft directly at its hull penetration, but this method also has its own problems. You have to unbolt an access cover that's been underwater for months, work in a confined space with limited visibility, and—most importantly—have a restricted egress point. While the greatest danger during any dive is loss of air supply, the possibility of entrapment multiplies the danger 10-fold.

The Jack Browne enclosed-space diving rig used for this dive consisted of a small, triangular-shaped, full-face mask, with an air valve on its right side and a spider-strap to keep the mask firmly on the head. However, with this high-speed, low-drag configuration, divers sacrificed communications. There was no way to talk with topside except through line-pull signals sent as a series of jerks on the air umbilical. Of course, when you're inside an enclosed space, these signals somehow never make it topside, so it becomes standard operating procedure for your dive buddy to tend your umbilical from outside the space and talk to topside for you.



A Navy diver wearing the current MK 21 rig is shown in the dark confines beneath a ship during an underwater inspection. Darkness could easily contribute to panic in an unexpected situation as that described by the author.

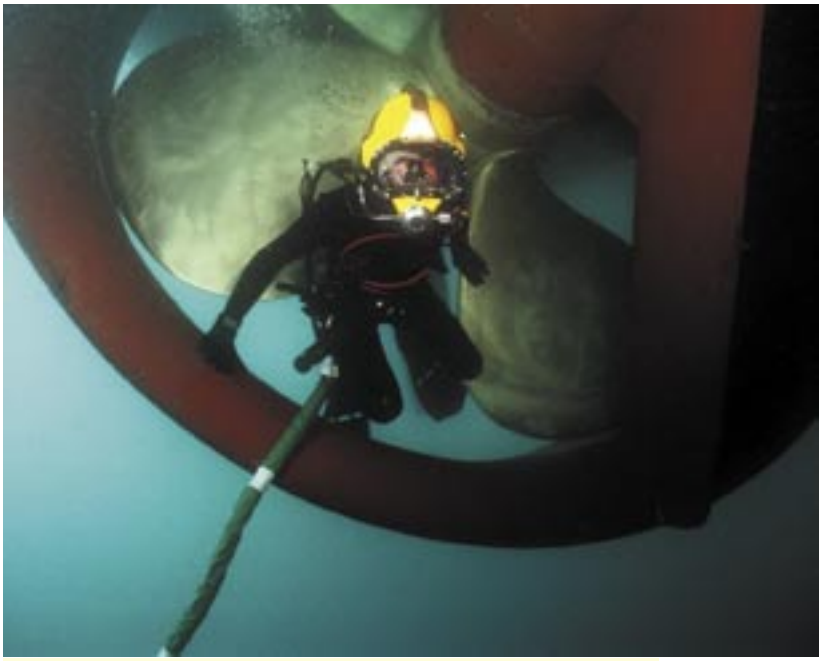
When we arrived on station, the ship was moored starboard side to a pier that was an ant's nest of commotion as people, forklifts and cranes moved at a typically frenzied, shipyard pace. Moored as such placed the ship's No. 2 shaft (the shaft on which we were working) outboard from the pier. The best spot to set up the dive station was on the pier, which meant we had to swim past shafts 1 and 3 to reach our worksite. After locating our ship's liaison, the dive-safety sheet was routed, and the divers' danger tags were hung.

Diving operations began about noon on the first day, and, from the start, we realized this job would be difficult. Everything about diving around a CVN is magnified. Just to reach No. 2 shaft, in this case, meant descending to 40 feet, then navigating past the two starboard shafts and crossing the ship's centerline, a distance of about 200 feet from the pier. To make matters worse, pieces of line dangled from hull fittings along most of the route; these lines threatened to foul us as we swam to and from the worksite. We had decided to seal the shaft by plugging the stern-tube holes from the outside, but every ship is different, and, since there is no set amount of holes or seams to seal, finding all the deadlights in the stern tube proved to be a monumental task. We finally secured diving operations at 2100 without getting a seal.

The team arrived on station at 0600 the next day and splashed the first divers at 0700. Each group was good only for about three hours in the water, due to decompression considerations and water temperature. The second day evolved into evening—still with no joy—as water continued to drain into the shaft-alley bilge at the same rate. Finally, at about 2000, we decided to enter the stern tube to seal the shaft, so we broke out the Jack Browne rig.

This particular dive began about 2100. Water temperature was 55 degrees, and visibility was three feet. I was the enclosed-space diver, so I carried the scuba tank and regulator, while my dive buddy, who would tend my umbilical from outside the space, was in a MK 1 mask.

As we swam to the worksite, he was about 15 feet ahead, but all I could see of him was his dive light. Although we didn't realize it at the time, we



A Navy diver is shown with his umbilical from the surface that provides communications, air, and electricity for his MK 21 rig's helmet-mounted light. The helmet locks onto a neck ring on the diver's suit and cannot be dislodged like the Jack Browne rig.

had taken different routes. Apparently he swam over both starboard shafts, while I swam underneath them. When we arrived at the worksite, I entered the stern tube and placed the scuba cylinder on a steel support; meanwhile, my buddy tended me from outside. The upper third of the shaft was in an air pocket, and going from water to air made it difficult to see the seal opening. Holding my dive-light in one hand, I had to squeeze my body between the shaft and the surrounding bulkhead as I shoved the weenie into the gap. Eventually, I had it in place and thought I had a good seal, so I gave three tugs on my umbilical. My buddy took up my slack as I worked my way out of the space. I passed him the tools and scuba tank and squared away the worksite; he signaled by holding up four fingers that he was ready to surface. I returned his four, and we swam for home.

As we crossed the ship's centerline, a piece of line snagged one of my fins, and I paused to clear it as my buddy swam on. Looking up, I could see his light in the distant blackness, and I caught him just in time for us both to pass under the No. 3 shaft. As we swam, a growing tension on our umbilicals pulled us closer together until we couldn't go any farther. My head was stuck at his weight belt, with less than an arm's length between us. In our dark swim from the worksite, he had gone under the shafts when he should have gone over, and, when I stopped to clear my fin, our umbilicals must have crossed and ended up in a knot.

After five minutes of twisting and turning, I began to get frustrated with the lack of distance between us and our inability to talk. He must have felt the same way because we started to struggle against each other, and he accidentally elbowed my mask sideways on my face. As luck would have it, I just had exhaled and suddenly found myself sucking in a mouth full of water! As I wrenched the mask back into place and cranked up the air full blast, I was on the edge of panic.

Trying to catch my breath, I screamed at myself, "Don't you panic, or you will die!" I was 40 feet underwater, under an aircraft carrier's centerline, and would have to swim 100 feet to clear the hull. At the same time, my dive buddy realized what he'd done and started to frantically grope my head and trying to put my mask back on. This almost pushed me over the edge.

I knew if I panicked I would head straight up, even though there was a large ship between me and the surface. To gain control, I grabbed his arm and gave it one hard squeeze. A one means stop, which he did. I took several deep breaths and told myself, over and over, that I was OK. Once I calmed down, I remembered we had a scuba jug with us, but my buddy was holding it. I promptly took it from him and told myself that, no matter what else happened, I had something to breathe and could make it to the surface.

Our main problem, because of our fouled umbilicals, was we were so close together. We blindly tried to untangle ourselves, and he kept bumping into me; I knew it was just a matter of time before he knocked my mask completely off my head. The only solution I could come up with was to unhook the spinnaker shackle from my dive harness, which would give another two feet between us and, hopefully, would let my mask stay in place. The problem with disconnecting the shackle is that it's designed as the pull

point between the umbilical and the divers harness; it's ultimately the only thing linking the diver to topside, and, if it's jerked hard enough when it's disconnected, the diver may lose his dive rig—his only link to the surface. Such a consideration is important, especially when you're under an aircraft carrier at night. I knew this, but I also knew my panic level was very high, and I didn't want to risk another breath of saltwater. Besides, I had the scuba tank and could follow the hull to the surface if the worst happened. So, I tightly gripped my umbilical below the mask to keep it from being pulled off my head and unhooked the shackle. Suddenly we had plenty of elbow room. My buddy then led me over to the No. 3 shaft and we sat down on it to wait.

We spent the next hour sitting on the shaft, with me asking my buddy—by squeezing his arm four times—if we could go to the surface. He responded by giving me a single return squeeze, meaning I should sit tight. Experience told me the standby diver had been splashed and was in the water, looking for a way how to best untangle us. Time passes slowly in a situation like ours, and, as I sat there, shivering in the black, I wished I could talk with someone to help me forget the cold.

Trying to catch my breath, I screamed at myself, "Don't you panic, or you will die!"

My buddy eventually gave me one more squeeze, and he swam off. I figured topside had told him to move out first, meaning the standby diver was doing his job, but I suddenly felt lonely. I now was by myself, having no one to even squeeze. I reattached my spinnaker and waited for the standby diver to get me. I was about ready to "lose it" when—finally—I felt a pull on my umbilical. As I swam toward the surface, I realized just how twisted a path my buddy and I must have taken to get to the worksite. Following the strain, I went over, under and around shafts and struts until the lights on the pier eventually came in sight.

I never was so glad to get out of the water! The guys topside said my eyes were like saucers when I surfaced. The cold that night had soaked me to my bone marrow, and I didn't stop shivering until I had had a hot shower and had climbed into a warm bed for a good night's sleep.

Two Navy divers decompress while slowly surfacing in their open-circuit rigs. The civilian equivalent of their MK 21 helmets is the Superlight 17, which differs in that Navy MK 21 helmets have different regulators allowing for higher airflow.

The next morning, we arrived on station, only to find that, despite the previous day's work and adventure, the shaft still leaked. We eventually found half a dozen deadlights about 250 feet forward and finally got a seal on the third day.

During my 20 years as a Navy diver, this dive was, by far, the scariest. I attribute my surviving to tell you this story to superior dive-school training, and to the master diver and my fellow divers who were on station that harrowing night.

If any of your shipmates out in the fleet have stories similar to this, or something you think might be of interest to the diving and salvage community, submit your article to: SAFE-Divesalvage@navy.mil—Ed.

Hazardous Material

Can't do without it, so how

By Terry Tibbs,
Naval Supply Systems Command

The Naval Safety Center originally helped the fleet deal with problems inherent to hazardous materials, since safety surveyors knew about hazmat-associated risks. However, the issue became more complicated by the presence of too much shipboard hazmat and shipboard environmental conditions that made stowing or using hazmat too dangerous. Then, in 1989 the Chief of Naval Operations tasked the Naval Supply Systems Command with responsibility for hazmat control and management and to work with fleet and type commanders when doing so.

NAVSUP's first priority was to reduce the amount of hazmat going to ships. Secondly, it had to identify what such material safely could be used aboard ship.

Both the Naval Safety Center and NAVSUP had heard frightening tales of hazmat issues from another organization intimately involved with them: the Board of Inspection and Survey. INSURV inspections had identified concerns with hazmat storage and use, training, and using appropriate personal protective equipment (PPE) when handling hazardous material.

Other organizations such as Naval Sea Systems Command and Naval Air Systems Command are also stakeholders and play important roles when it comes to dealing with hazmat. Each prescribes what hazmat should and can be used to maintain various shipboard weapons systems and equipment. Eliminating dangerous materials or approving "greener" products is within their province. NAVSUP's Naval Inventory Control Points in Philadelphia and Mechanicsburg, Pa., also contribute to managing hazmat lists and processing additions and deletions to shipboard-authorized material.

Before 1989 there were few restrictions against what hazardous material could be acquired and used, although some chemicals quickly were prohibited when discovered to be too dangerous for use aboard ship. Nonetheless, with so few restrictions excess hazmat inventories seemed to exist everywhere.

Appropriate and ample warnings are evident in USS *Anzio's* (CG 68) hazmin Center.

The hazardous-waste-removal industry naturally found this quite profitable. These companies were taking good hazmat and disposing of it as hazwaste at a steep cost to the Navy. The Navy Inspector General found those practices at the time annually cost the Navy $50-100 million, most of it spent on good hazmat going to the waste stream each year.

Such waste had to be brought under control. Contributing to doing so was the Navy Occupational Safety and Health and Environmental Training Center in Norfolk, Va., and their facility at Naval Air Station San Diego, Calif. NAVOSHEN TRACEN has provided critical afloat training for hazmat handling and environmental responsibilities. They continuously update curricula to reflect changes to procedures, regulations and laws concerning not only hazardous material handling and use, but also environmental regulations and laws.

All these organizations have, for the past decade, met annually via Hazardous Material Afloat Program (HMAP) conferences. Chaired by NAVSUP's Pollution Prevention Director, HMAP has initiated numerous improvements in both hazmat material type and quantity used afloat. Injuries have steadily

in Ships:

do we minimize the risks?

declined, and environmental damage from illegal disposal actions now are rare.

Meanwhile, the Navy's mandated process of hazmat control—the Consolidated Hazardous Material Reutilization and Inventory Management Program, or CHRIMP—has been difficult to implement as a day-to-day operation. This is primarily because the Navy has no specific hazmat-dedicated job skills or rating requirements, or a primary Navy enlisted classification (NEC) dedicated to hazmat. The Navy does have a secondary NEC (SNEC 9595) but it is inadequate for the up-front controls CHRIMP requires for success.

While CHRIMP is a business practice designed to control hazmat required for operations, many other actions can be taken to minimize hazmat inventory and waste. First, there is the Ships Hazardous Material List (SHML), which is a listing of 25,432 line items authorized for shipboard use. The listing is pared for specific ship types such as CVs and FFGs, and is known as the type-Ships Hazardous Material List (T-SHML). It is very specific in designating what hazmat can be used aboard a particular type of ship. There are, however, procedures for adding to, or deleting from, this listing. Additions require NAVSEA or NAVAIR approval, depending on the equipment or system.

CHRIMP operations afloat and ashore are conducted out of a space called a hazmin center, or HMC. However, HMC manning is usually a collateral duty, and this has led to a start-and-stop organization with little continuity and obviously poor results.

A HMAP working group recommendation was to remove, as much as possible, the CHRIMP workload from the ships. The result was an enhanced CHRIMP (ECAP)—an initiative whereby contractors from a Fleet and Industrial Supply Center, or from the shore HMC in fleet concentration areas without a FISC, perform most CHRIMP functions. These contractors perform such tasks as requisitioning hazmat and delivering it to the ship, making appropriate entries into the Hazardous Inventory Control System (Windows version—HICSWIN) database, taking care of shelf-life extensions, and removing excess hazmat for redistribution. Such shore support only is available while a ship is in port.

Earlier wasteful hazmat practices included ships returning from a deployment frequently ridding themselves of good hazmat, or ships throwing away hazmat preceding a pierside or shipyard repair availability. Material also was unnecessarily disposed of before decommissionings or simply because ships sometimes had too large a load list upon commissioning. Much of the waste was really "unsold" inventory in that it could have been sold to other ships. Some of it was "end use" whereby a ship simply had procured too much. NAVSUP now has intercepted that flow towards the waste stream and has rerouted it to the FISC. A FISC can conduct a shelf-life analysis and possible extensions, and it can make the material available for free issue or sale.

HMAP has improved shipboard safety and simultaneously reduced hazmat procurement, management and storage costs. The program also has significantly reduced hazmat waste. With even more environmental restrictions and shipboard reporting requirements looming on the horizon, HMAP work will continue to be crucial to controlling hazmat cost, procurement and management.

Both the Naval Safety Center and NAVSUP had heard frightening tales of hazmat issues from another organization intimately involved with them.

Be Vigilant When Tired and in Potentially Hostile Lands

By Lt. J. B. Eichelbaum

The clock on the moving map display indicated local time was 0230 and the temperature was 103 degrees Fahrenheit. After traveling 30-plus hours, our chartered military transport finally had touched down at the military airfield in the island country of Bahrain in the Arabian Gulf. There had been three aircrew changes, but we passengers had crossed seven time zones in just over 30 hours, and our circadian rhythms were upside down.

Weary from the journey, the hundred or so of us followed the guards to the collection area where we would be split into groups going to different Navy ships in the gulf. Sixty of us were to fly to the USS *Nimitz* (CVN 68) early the next morning aboard a C-2A Greyhound aircraft. We were told hotel rooms had been reserved for us, and all we had to do was clear customs and board a bus outside the gate. Almost two hours later, we finally gathered outside the base. We now were outside the protection the U.S. military compound had offered. We also were on the wrong side of the M-16s and 50-caliber weapons posted at the base checkpoint.

Force protection in Bahrain was in full swing and curfews were in place. Forming large groups of military members in one place was prohibited, especially in clubs and bars serving alcohol and where a person's awareness is diminished.

Meanwhile, there we were—three busloads of troops including 10 officers, along with a reception committee with a botched plan—waiting outside

Always keep your head on a swivel and your wits about you.

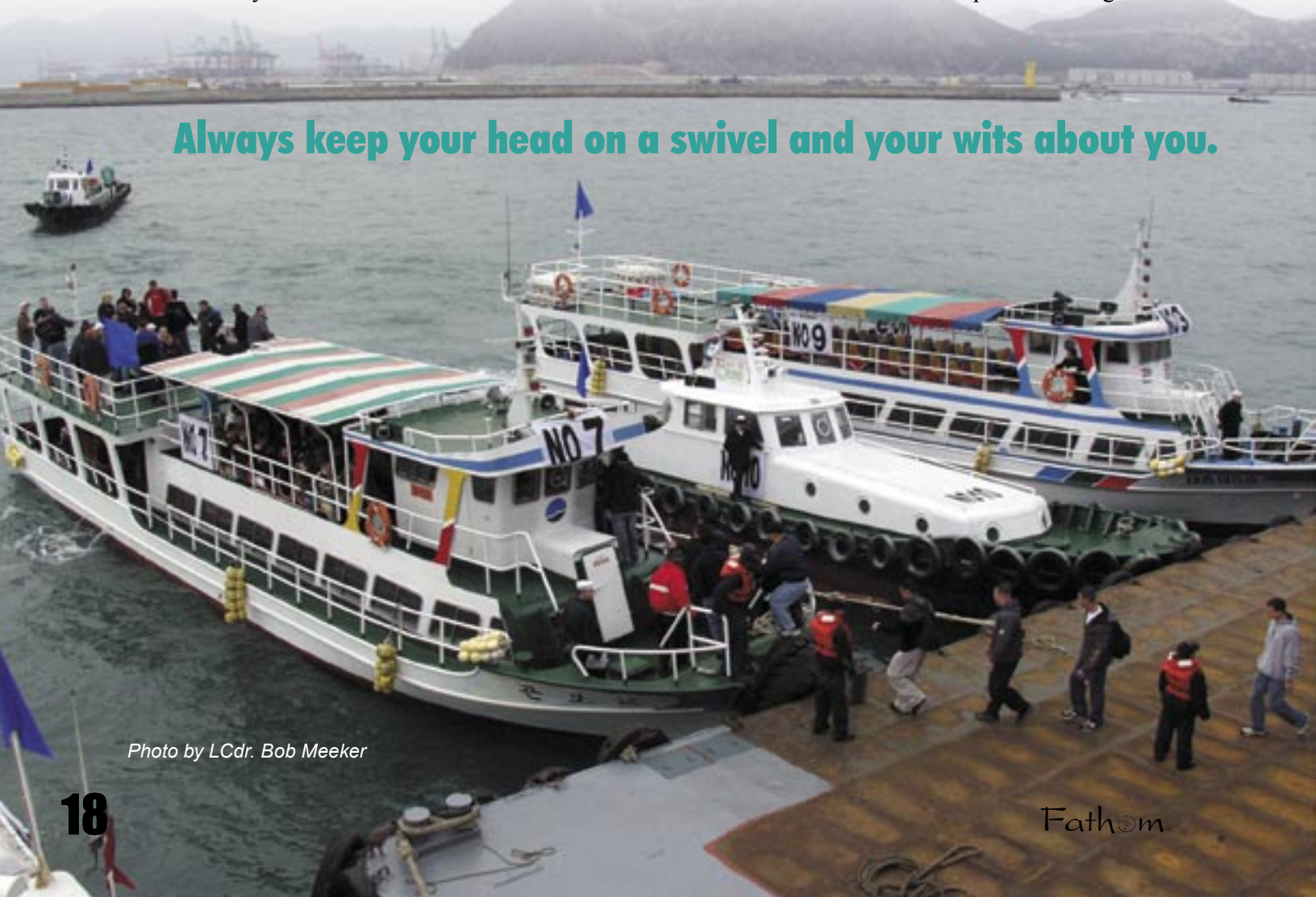


Photo by LCdr. Bob Meeker

the base. Policy dictated a scheduled early morning flight to a ship in the gulf rendered one ineligible for reimbursement for a night's stay in a hotel. Meanwhile, 95 percent of our weary group who had waited patiently to clear customs with thoughts of a shower, some clean clothes, and maybe a couple hours of shuteye, let the bad news sink in. We got off the buses.

We now became a hoard of service members out past curfew, on a dimly lit street in a region where the U.S. military is not so popular, wandering aimlessly with no place to go. We also had very little guidance, since group coordinators struggled to determine what to do. Most of our group returned to base and slept in the waiting area. A few, including me, opted to pay for the hotel, where more risks awaited.

The hotel we chose decided it would be most convenient for us all to stay on the same floor and in the same wing. We now were exhausted and were individually checking in, unaware of how the hotel was "conveniently" grouping us. After all, it was 0430, and few of us had any wits left about us so we didn't question the arrangement.

About an hour later, when I heard a man next door began chanting, I found myself wondering which way I would jump if the wall suddenly exploded. We should have been separated to minimize losses had a drastic situation *[an anti-American terrorist act]* taken place. We were not attacked that night, but no one ever will know if we were targeted.

Every now and again, we read or see reports about bombs targeting a specific group detonated in public places: nightclubs in Bali and cafés in Israel, to name a few. Terrorism is real, and force protection is no laughing matter.

Always keep your head on a swivel and your wits about you. Be ever vigilant of your surroundings, no matter where you are, but especially when you're in unfamiliar territory in what could be a hostile land.


New Ear Plugs Are Now Available

The July-September 2003 edition of *Fathom* had the article, "New Ear Plugs Are Now Available," that discussed the three sizes of disposable foam, insert-type ear plugs currently available and authorized. The Noise Reduction Ratings (NRR) cited for the new Sound Guard plugs (19.1 dB NRR) and for the old EAR ear plugs (29 dB NRR) give the false impression the new ear plugs are less protective than the old. This is not the case, as the two brands of plugs—when correctly worn—perform essentially the same. The test methods themselves used for each brand differed significantly. Older ear plug stocks can be used until exhausted. Also, readers are asked to disregard the final paragraph in the article. The following link provides additional clarification and noise reduction ratings for other various available DoD-tested hearing-protection devices: http://www-nehc.med/HPDupdateweb.doc.

Fathom regrets any confusion or inconvenience resulting from the article.

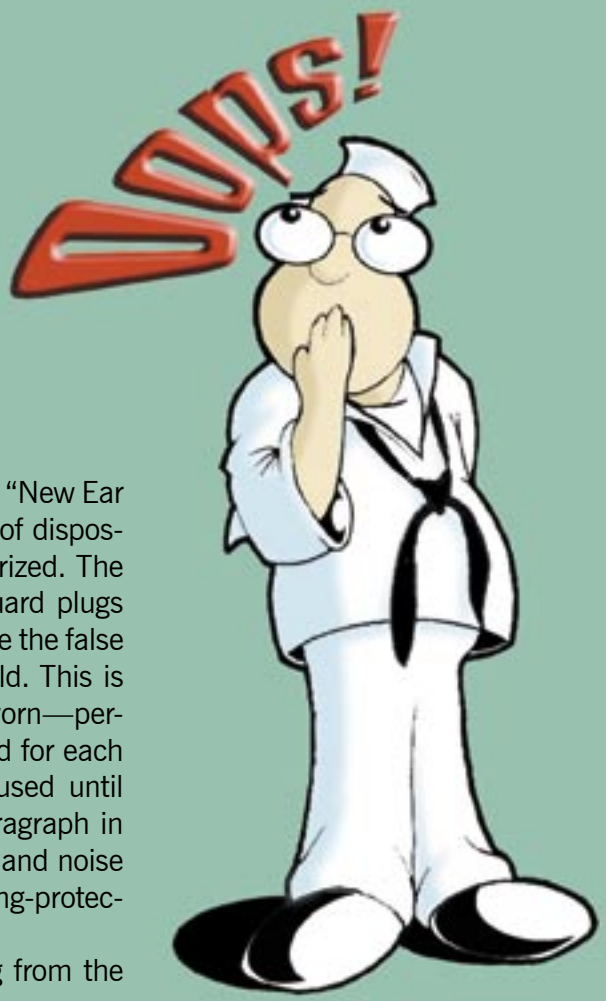


Illustration by DM3 Edwardo Proano, USS *Nimitz*

When Your Routine Gets You Too Close For Comfort...

By Ltjg. Kristopher Olson,
Special Boat Team 12

It was the rev-watch (0400-0800), and our ship was steaming at 23 knots through waters just west of the Strait of Malacca to another unrep rendezvous. Traffic had been busy most of the evening, mostly small fishing boats randomly scattered along the ships PIM (point of intended movement) track. Many contacts were not visible on radar or, at best, became visible at ranges of only three to seven nautical miles. An escort frigate was patrolling a sector three to six nautical miles in front of us to aid in screening potential problem vessels as we headed home from deployment. Most contacts during the watch so far had been outside the ship's "safety bubble" or required only slight course changes on our part to put them there.

The unrep rendezvous was scheduled for 0700. It still was dark as we closed the rendezvous point at 0500, and the watch pace shifted as both our bridge team and that on our escort ship began attempts over tactical circuits to contact the vessel with which we would unrep.

Getting no responses, we decided to wait until we were closer to our rendezvous point, and we read our checklists to prepare for the unrep. We noticed only about 20 or so small, dimly lit contacts scattered across the horizon. Sunrise came at 0552, and the contact picture suddenly changed exponentially, with over 100 along the horizon. Most were to starboard and had strong, right-bearing drift. At 0610, the designated enlisted bridge team for the unrep was called to the bridge to begin watch turnover and to take their stations.

We continued following our escort along our track, proceeding through a large gap in the string of contacts across the horizon. We had only a few contacts off the port side that might be of some concern, so we shifted our base course a few degrees to starboard to allow a bit more room to pass around those port contacts.

The conning officer determined from the port bridge-wing pelorus that these contacts had left bearing drift. The junior officer of the watch (also an officer of the deck under instruction) worked the contacts on a maneuvering board and determined they were dead in the water, with a CPA (closest point of approach) of 1,200 yards on the port beam in 25 minutes. This estimate was compared to CIC's solution on the same contacts: a CPA of 2,100 yds. Quite a difference!

Following our initial course change, a contact report that recommended maintaining course and speed was made to the CO at 0615. He concurred, and CIC continued to monitor the contacts and to provide updates via the JL phone talker.

At 0620, we had good radar contact with the ship with which we would rendezvous and closed on our rendezvous position as agreed. The bridge teams on the escort ship and our ship again began tactical circuit and bridge-to-bridge attempts to communicate with the replenishment ship, all to no avail. About this same time, we decided to maneuver a little to starboard to allow more distance from port-side contacts and to prepare to take station on the replenishment ship. At 0624, the oncoming watch team came to the bridge with the conning officer relieving first, and, at the same time, the CIC watch officers changed in combat. At 0626, the oncoming officer of the deck—wearing the bright yellow hat that distinguishes the OOD from everyone else on the bridge—reported to the bridge to begin an early turnover. He noticed two port-side contacts and began to check the radar for the rest of the surface picture, while being updated by the offgoing OOD on morning events.

At 0630, word was passed to station the underway-replenishment detail, thus ramping up the rest of the crew involved in the pending unrep. This event required additional safety watches on the bridge.

At 0635, the oncoming JOOW (also an OOD under instruction, or U/I) reported to the bridge to begin the watch turnover. At about the same time, with the offgoing OOD on the starboard bridge wing discussing the visual surface picture with his relief, the JOOW noticed the port-side contacts appeared to be making way and reducing the CPA. The OOD ordered the conning officer to alter course to the right. The OOD noticed the JOOW had addressed the contacts and returned to his turnover and preparations for the unrep. He overheard the replenishment ship pass over bridge-to-bridge radio to the escort, its intentions to pass starboard to starboard with the escort, close his ship to three miles, then make a port turn to come to replenishment course and speed.

The OOD became concerned with the 40-knot, relative closure rate with the other ship, which was steering directly toward him at a distance of 12 nautical miles. He also was concerned how to take station once the ship had turned. At 0640, the JOOW verbally passed the deck to the oncoming OOD.

Confusion occurred during watch turnover. The oncoming watch team changed the plan for who was supposed to take the deck to who actually took it. For some reason, it was decided the person who normally stood OOD would stand JOOW during this watch. The offgoing OOD, therefore, was turning over unknowingly to the JOOW, who then went to the off-going JOOW and reported he was ready to relieve. The offgoing JOOW—assuming this was the OOD ready to take the watch—passed the deck.

This action took the actual oncoming OOD by surprise, since he had not received an adequate turnover, but he verbally took the deck anyway. The offgoing OOD, now realizing the confusion taking place, remained on deck to continue giving a turnover to the actual OOD. Meanwhile, the port-side contacts continued to close CPA, so the order was given to come even farther to right to open CPA. Three minutes later, the CO came to the bridge to

The bridge teams on the escort ship and our ship again began tactical circuit and bridge-to-bridge attempts to communicate with the replenishment ship, all to no avail.

prepare for the unrep and immediately felt uncomfortable with the surface picture he saw outside the bridge windows. He thus ordered a course alteration more to starboard and asked that danger signals repeatedly be passed via the ship's whistle. The follow-up moboard CPA computed by CIC was now 250 yards!

A mishap results from a chain of events. In our case, the ship was fortunate that such a chain was broken by a seasoned and "fresh" set of eyes (those of the CO), an individual who knows a fundamental principle of seamanship: Keep the ship safe from collision and grounding at all times! The unrep was secondary to the safe maneuvering of the ship and could be set any time later in waters with a better surface picture.

anyone within earshot. A trained operations specialist could better determine what information was important and immediately and regularly had to be passed to the bridge.

Following established watch-relief procedures also would have eliminated confusion. Having only the designated OOD relief show up with the identifying yellow cover and staggering other watch-relief times so they didn't all occur when so much was happening would have helped to minimize confusion.

Here are some actions performed, which avoided a possible collision during this evolution:

• Maneuvering to maintain appropriate bearing drift (contacts to port had some left bearing drift throughout the incident).

Three minutes later, the CO came to the bridge to prepare for the unrep and immediately felt uncomfortable with the surface picture he saw outside the bridge windows.

This scenario offers several lessons to avoid future close calls, or worse. The causes of this near-mishap can be narrowed to these problems:

• Focusing on a pending evolution, rather than on the current overall navigation picture,

• Failure to follow up a moboard solution on contacts of concern,

• Inadequate communication between CIC and the bridge team, and

• Not following watch-relief procedures.

First, the OOD should have been aware how quickly events were moving beyond the watch team's ability to handle without assistance. He should not have hesitated to call the CO earlier for advice. A fresh perspective usually can shed new light on a situation and see something the watch team might have missed because of what became seemingly routine during their watch, in this case the presence and similar behavior of so many contacts.

Second, continuously plotting contacts' movements with follow-up moboards would have indicated earlier the unfolding situation. CIC was following up these contacts but didn't effectively relay the information to the bridge. In this case, the person relaying the information was an inexperienced phone talker to whom multiple numbers for ranges, bearings, CPAs, and times didn't appear to be significant, other than simply announcing them to

• At least one person (the conning officer) continuously was aware of the contacts, despite not being forthright about his level of concern for them.

• The appearance of a new set of eyes (the CO) enabled a clear evaluation of the situation, which led to appropriate and immediate action.

Among the valuable lessons learned from this event are those which might seem basic, but—though often overlooked—are nonetheless fundamental to good seamanship and never must be forgotten:

• Every mariner's first responsibility is to keep his ship safe from collision and grounding.

• Call the CO if matters begin to get out of hand or pressing questions must be answered.

• Be alert for potential or developing in-extremis situations.

• Moboards rarely (if ever) will fail you if you regularly use them, including for following up on contact movements.

• Always follow established watch-standing and watch-relief procedures.

The author wrote this article while assigned to his previous afloat command.

Some Surprises Found Can Be Life-threatening

By FTCM (SS/SW) Chris Clements, Naval Safety Center

You never know what you might find during a safety survey. We recently conducted a safety survey aboard a submarine and discovered the crew was wearing unauthorized, commercial, marine-exposure suits while topside in cold weather.

The dangers of using this unauthorized equipment had become apparent when a research submarine suffered a structural casualty and flooding resulting in the crew abandoning her when damage-control efforts failed (the submarine was saved and towed to port for repairs). Sailors who had donned the commercial exposure suits reported that, after being in the water for a while, they had difficulty staying afloat, despite wearing a kapok life jacket over the suit.

It turns out the boat had ordered only large-sized exposure suits, as though one size fits all. However, when a Sailor of small stature donned one of the suits and entered the sea, the excess space filled with water and weighed him down to the point the kapok life-jacket was ineffective.

The Navy has a large selection of Naval Sea Systems Command-tested and approved exposure clothing for use aboard submarines. AEL 2-330075127 lists exposure coveralls, boots, and mittens approved specifically for submarine use. Don't be misled by the many nifty-looking, available, commercial products that might appear to be better and cheaper than what you already have. If NAVSEA hasn't approved an article or piece or equipment, it not only is unauthorized—it might "bite" you during a real casualty. Don't use unapproved products! When in doubt about shipboard or submarine safety clothing, or if you are unsure about any safety-related topic, contact us at the Naval Safety Center.

The red suit (left) might be worn aboard the starship *Enterprise,* but it is not allowed aboard Navy submarines. Only the orange exposure suit—the "pumpkin suit" (right)—is authorized.

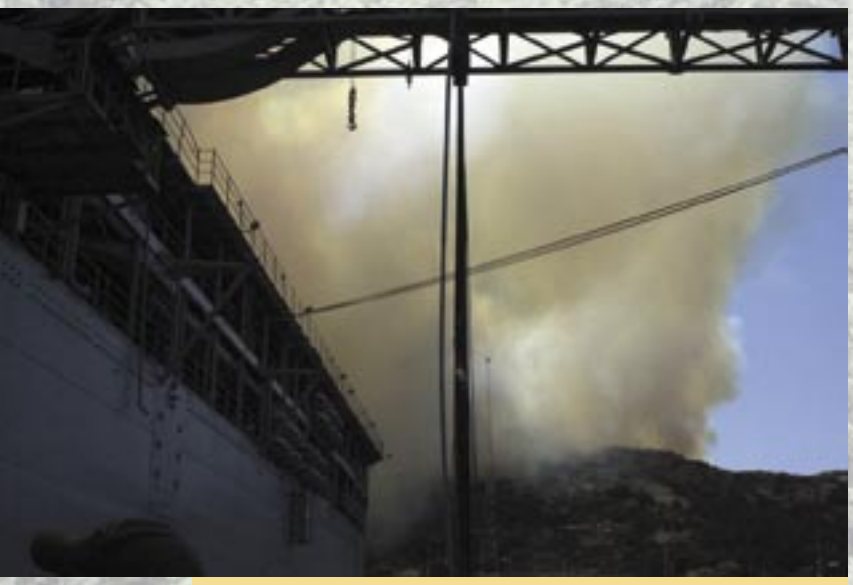
Ship's Crew Mobil

By JO1 Linda Pepka,
USS Emory S. Land *Public Affairs*
Photos by PHAN Wes Marquis

When a brush fire broke out on the western side of the Mediterranean island where USS *Emory S. Land* (AS 39) is homeported, her crew mobilized to save their ship. They also fought to save the ship's port-support installation and the rest of the eastern part of Sardinia's Santo Stefano Island, all of which were threatened.

It was late afternoon on a hot day when the first bits of ash and smoke trickled over the hilltop onto the ship's decks. Shipboard activity suddenly ceased for the crew members still aboard or near the ship, because a call for action soon came. ET1(SS) Mark Oliver and ET2(SS) Grant Gildehaus were taking a break at the recreation center and were two of the first to respond and man hoses.

USS *Emory S. Land* (AS 39) firefighters hose down the area to keep the fire from spreading. In the upper left portion of the picture can be seen Sailors wetting the roof of one of the buildings aboard the naval facility where the ship is moored in Sardinia.



Smoke bellows over USS *Emory S. Land*'s (AS 39) stern during a brush fire in Santo Stefano Island, Sardinia, where the submarine tender is homeported. The ship's crew was instrumental in keeping the brush fire from spreading from the western part of the island to the facility where the ship was moored.

"I had seen evidence of controlled burning in Palau and thought that's what was occurring when I saw the smoke, ash and flames," said Petty Officer Oliver. "But when I saw teams of firefighters running to man hoses, I knew this wasn't something planned."

One of the ship's officers quickly organized the first hose teams to arrive on the scene, then coordinated lengthening hoses on demand so fire teams could advance and beat back the fire. Shortly thereafter, the ship's damage-control team coordinated other damage-control efforts, such as overhauling hot spots. There was also the logistical challenge of coordinating the rigging of hoses from the ship and

lizes to Fight Fire

from two Navy tugboats assisting in the firefighting, then spreading the hoses over and around buildings.

"There was at least a half-mile of territory we needed to defend from the flames," said Capt. David Volonino, the submarine tender's commanding officer. "One of the initial problems was how to get enough sources of water and a sufficient number of hoses out there to stop the rapidly spreading fire. Our first order was to establish ten hose teams; we eventually had thirteen hose teams fighting the fire."

The ship also deployed a brush team that raced by truck to the island summit to establish a firebreak between advancing flames and the island's eastern side.

Capt. Volonino and *Emory S. Land*'s XO, Cdr. Jack Gustafson, coordinated firefighting efforts from the ship's brow, using VHF radios and cellular phones. Having an overall view of the blaze, they communicated directly with numerous on-scene leaders, guiding them to wet down a perimeter 220 yards from the site. As fire drew nearer, they guided firefighters who were beating back advancing flames.

BM2 Otelo Rodrigues from the submarine tender's deck department was the nozzleman for a team of Sailors who kept the brush on the eastern side of the island moist enough to keep the fire from spreading.

The island has no firefighting department, so Italian water-carrying, military helicopters assisted the Sailors in containing the fire to the western side of the island and away from the naval facility.

"Many of the firefighters wanted to charge up the hill and attack the flames directly. I had to keep pulling the teams back *[communicating over the VHF radios]*" said the XO. "My fear was that, due to the strong winds that were veering about ninety to a hundred degrees, there was a possibility hose teams were getting too far ahead of adjacent teams and thus might get cut off by pockets of flames behind them. Defending against a half-mile-long wall of flame required a half-mile-long wall of water."

Command Master Chief Joel Allison said more than 5,000 feet of ship's hoses were used to combat

In the surrealistic photo above, ash from burning brush rains upon an *Emory S. Land* (AS 39) Sailor who was one of the dozens who helped to keep the brush fire from spreading and threatening the naval facility and the ship. Below, Sailors man a two-and-a-half-inch hose as they prepare to hose down brush to keep it from catching fire.

the fire, including one series of 26 hoses, each 50 feet long, that extended 1,300 feet. Even with that length, *Emory S. Land*'s fire pumps maintained enough pressure to shoot water 50 feet.

The ship's crew also scurried to remove hazmat from storage areas near the fence line. Ladders were positioned to allow rooftop access for the firefighters. A medical-support team on the pier in front of the port facility's recreation center treated smoke-inhalation or heat-stress victims, and the team monitored hydration levels. Fortunately, no one was killed or injured.

"Once we were confident we were in control of the fire, we allowed firefighting teams to travel near the top of the ridgeline," said the CO. "The firefighting team that went over the ridge to the western side of the island put out all the hot spots and brush fires, then came across the crest of the hill to help extinguish *[fires]* on the eastern side," added the XO.

According to Capt. Volonino, the team's efforts helped reestablish the firebreak that initially had cut off the military section from the main island. Vegetation on the island's eastern side was sparser than on the western side. Had the flames continued to advance, they would have been sufficiently less intense and 13 hoses could have beat them, noted the captain.

Defending against a half-mile-long wall of flame required a half-mile-long wall of water.

Although Santo Stefano Island has no fire department, Italian water-carrying helicopters rendered vital assistance during the fire.

Among that day's scores of unsung heroes were those Sailors who hauled "mountains" of material to the scene, including hoses, fire extinguishers, overhaul gear, and cases of bottled water to hydrate and cool firefighters.

"I do not have the words to describe how proud I am of them," said Capt. Volonino. "Together, the crew of *Emory S. Land*—along with Sailors from USS *Providence* and from the Naval Support Activity La Maddalena—demonstrated courage, strength, teamwork, and the value of proper damage-control training."

The Simple Things . . .Part II

What Was Routine Became a Disaster

By Steven R. Southard,
Naval Sea Systems Command Deep Submergence Branch

A sunny day and calm water greeted the submersible *Johnson Sea Link's* crew as they readied their craft for diving. It was June 17, 1973, and the *Johnson Sea Link* sat aboard its support ship, the *Sea Diver*, as the larger vessel floated off the Florida Keys.

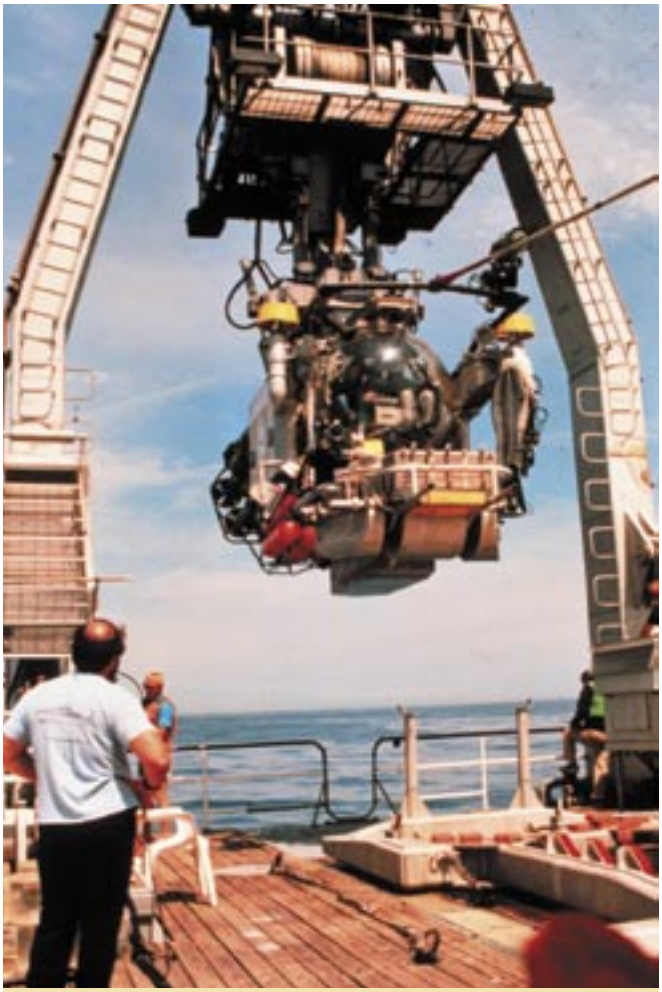
Pilot Archibald Menzies readied his crew: Dr. Robert Meek, Albert Stover, and Edwin C. Link. Looking on with a double dose of pride was Edwin A. Link, designer of the submersible and father of one of its crewmen. Their mission was to recover a fish trap that had been placed near a scuttled U.S. Navy destroyer and to see if the hulk had formed an effective coral reef.

All indications pointed to a routine dive.

Menzies visually checked the 23-foot-long, nearly 10-ton craft and its the mechanical arms and the forked rod, or "lance" he would use to retrieve the fish trap. He inspected the five-and-a-half-foot-diameter, acrylic pilot sphere where he and Dr. Meek would sit. He noted that divers Stover and Link, both clad in T-shirts and shorts, had entered the eight-foot long, cylindrical, aluminum diver's compartment. They'd just be along for the ride today since they planned no lock-out operations. The two compartments were separate, connected only by viewports and communications systems.

Menzies also looked over the specimen tray, exterior lights, gas bottles, ballast tanks, propulsors, and framing that protruded from the irregularly shaped vehicle. After entering the pilot sphere, he performed pre-underway checks and noted the CO_2 scrubber fan motor was still out of commission. He

The *Johnson Sea Link* is shown submerged with the pilot and observer barely visible as one looks through the vessel's forward sphere, which is six inches thick and made of acrylic material.



The *Johnson Sea Link* is prepared for being lowered into the ocean from its support vessel. The June 1973, mishap claimed the life of the submersible designer's son, who was a diver aboard the *Johnson Sea Link.*

decided this was not a show-stopper, believing he could sense when CO_2 was building up.

At 0836, the *Johnson Sea Link* submerged for dive number 130. Menzies located the wreckage of ex-USS *Fred T. Berry* at 360 feet. The vessel's masts, seven marker flagpoles and their supporting cables crisscrossed at odd angles. Like a medieval knight in a jousting match, pilot Menzies aimed his lance at the target. After three unsuccessful attempts to snare the fishing trap, he aborted the mission and began backing the submersible away.

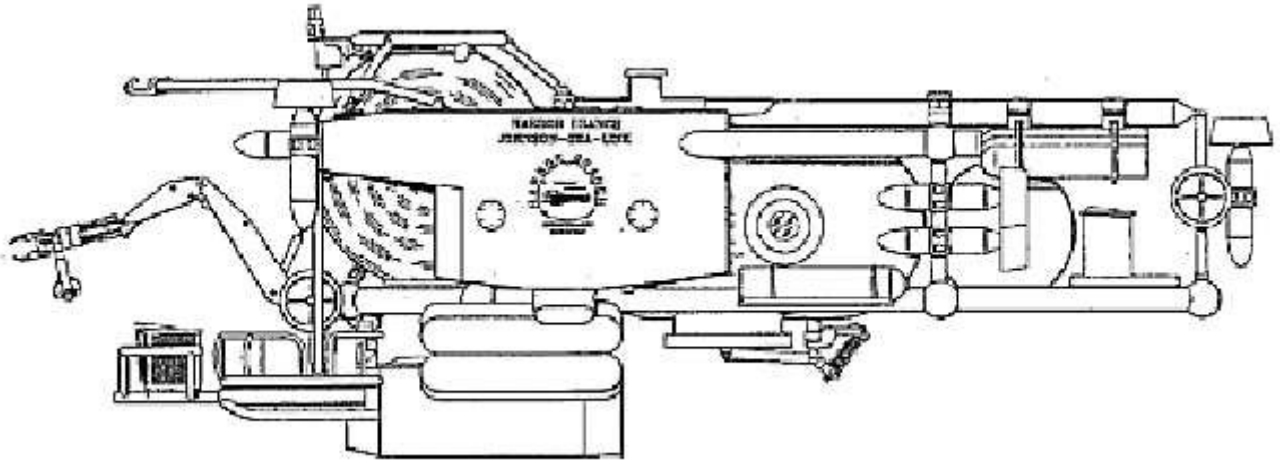
Suddenly, with a slight shudder, the craft stopped. The *Johnson Sea Link* had become entangled on a steel cable supporting one of the marker flagpoles. In one of life's ironies, a submersible sent to retrieve a fish snare had become just as trapped as the fish. At 0953, the pilot notified the support ship of the situation.

Just that suddenly, the routine had become perilous.

Aboard *Sea Diver*, Edwin A. Link took charge of what now had become a rescue operation. Radiomen notified the Navy. Meanwhile, the on-scene doctors rejected the notion that one of the divers should lock out and try to free the craft, basing the decision on the limited bottom time available at that depth. While they all waited for a Navy ship to assist, the submersible's diving compartment grew colder and the CO_2 level started to increase.

The submersible occupants controlled carbon dioxide using Baralyme, a chemical absorbent. Calculations revealed that the Baralyme canisters should permit survival times of 42 hours in the pilot's sphere and 61 hours in the diving compartment.

The *Johnson Sea Link* was to collect a fish trap like this one and placed on a Navy destroyer to determine the hulk's effectiveness as an artificial reef.



The *Johnson Sea Link* side-view drawing shows the many appendages and protruding equipment that could easily become entangled in the environment such as that of the sunken Navy ship with its marker flagpoles and their supporting cables.

USS *Tringa* arrived that afternoon with a contingent of divers. However, positioning near the *Johnson Sea Link* proved difficult and the first dive team did not begin its descent until 2245. They found the submersible entangled in the wreckage but could not get close enough to free the craft. By that time the diving compartment's Baralyme absorbent was already exhausted. The calculations had failed to allow for the effect of cold temperatures on Baralyme's absorptive capability.

Shortly after midnight on June 18, communications from the diving compartment ceased. Sometime later the pilot observed the divers suffering convulsions.

The *Johnson Sea Link* had become entangled on a steel cable supporting one of the marker flagpoles.

Rescue efforts dragged on during the day. A second descent by *Tringa* divers proved unsuccessful. One of the Navy's roving diving bells arrived, but on its first descent, a diver exited and became temporarily entangled. On its second descent, the entire bell got stuck. The submersible *Perry Cubmarine* reached the site but was unable to help because failed sonar equipment rendered it useless.

Finally the salvage vessel *M/V A.B. Wood* attached a grapnel and raised the *Sea Link* to the surface at 1653, 31 hours since its entanglement with the sunken destroyer. Divers Stover and Link had died, but pilot Menzies and scientist Meek survived after decompression treatment. It is difficult to imagine the grief that Edwin Link senior felt at the loss of his son aboard a submersible the elder Link designed.

A joint report by the U.S. Coast Guard and the National Transportation Safety Board cited the causes of the tragedy as:

✓ Pilot error in failing to keep the submersible clear of obstructions,

✓ Rescue force inadequacy due to technology limitations,

✓ Poor design of the *Johnson Sea Link* in view of its projections, appendages, and irregular shapes,

✓ Casual preparations by the crew (acceptance of the failed scrubber motor, belief in ability to sense CO_2 and failing to dress for cold temperatures).

Though the *Johnson Sea Link* was not a Navy deep submergence system, the Naval Sea Systems Command learned the lessons of this disaster. The System Certification Procedures and Criteria Manual for Deep Submergence Systems prohibits projecting appendages, requires component performance to be analyzed over the full range of expected temperatures and pressures, requires operating procedures for avoiding entanglement, and mandates rigorous safety and hazard analyses.

Still, certification manuals alone do not prevent mishaps. As operators go through their daily routines, they must remain diligent, always alert for the sort of safety hazards that can lead to disaster.

Questions From the Fleet

Editor's Note: *Following are fleet questions e-mailed to the Naval Safety Center's Afloat Directorate, with each question followed by our response. Individuals who requested the information have received responses, and* Fathom *is publishing the questions and responses for other fleet units who might be searching for similar information. Send afloat questions to: http://www.safetycenter.navy.mil/afloat/feedback.htm.*

What, if anything, is authorized to be stowed in fan rooms and voids? I've told my department heads, "Nothing," or—minimally—nothing flammable. They want to see something in writing.

I do have a 1995 edition of COMNAVSURFPAC 5100.7C, Electrical Safety and Tool Control Issue Program for Forces Afloat, but would like something more current.

We suggest you review GSO 670, General Specifications for Overhaul of Surface Ships (2000 edition). In that publication, Section 070 addresses the stowage of special metals such as magnesium and magnesium alloy, and how to stow gear without it being damaged under maximum conditions of roll, pitch, list, and trim.

Section 604 deals with lock and key requirements for storerooms.

Simply stated, though, fan rooms are not to have anything except ventilation filters stowed in them. As for voids—and uptakes—absolutely nothing is to be stowed in them.

As an engineer and the leading petty officer responsible for departmental and damage control division training, I would like to obtain the training video that discusses the *USS Forrestal* (CVA 59) fire.

You're looking for the video "Trial by Fire." It is available on VHS cassette and, along with other videos, can be purchased through the web site: http://afishp6.afis.osd.mil/dod:mager/davis/. Once you get on the site, go to the search engine and type in damage control, and once in the DC section you'll see a list of available movies. Just scroll to the one you want and follow the prompts.

OPNAVINST 5100.19D dictates that compressed air is not to be used for shipboard housekeeping. Aboard my ship, LP air is being used to clean the flight deck. Can you give me guidance?

Refer to paragraph C1302a(11) of OPNAVINST 5100.19D, and NSTM 631-2.8.5.5 also gives guidance. The answer to your question is that LP air should not be used to blow down the flight deck or any other area aboard ship. Compressed air should not be used to blow down overheads or personal clothing, and should not be used for general cleanup such as that being done on the flight deck. However,

if compressed air must be used, its pressure is not to exceed 30 PSIG and appropriate personal protective equipment (PPE) is to be worn. The reason you shouldn't use air to blow down areas on the ship is that what you think you are removing is, in reality, only becoming airborne, and it will re-settle onto horizontal surfaces once you complete the blow-down.

Aboard our CVN, my coworkers and I are disagreeing over the correct number of "rubber ducky" abandon-ship life vests to be stocked on board. I say we should have an inventory that is 105 percent of the ship's manning document. Some shipmates say available MK 1 life vests can be factored into the final tally.

You are correct in that the number of rubber duckies a CVN should have is to be equal to 105 percent of the ship's manning document. Other flotation devices or aids cannot be factored in. APL 2-33001413 of July 29, 2002 clearly states this. NSTM 077, Personnel Protection Equipment, paragraph 2.4.2 also dictates that the inflatable abandon ship life preserver is to be worn when abandoning ship because it enables crewmembers to swim under flames.

I have been asked several times for an APL for the flammable liquids and hazardous material stowage lockers we have aboard my ship. Can you tell me where I can get this information?

Determine who manufactured your locker and then contact that company via the addresses given below:

For Justrite lockers, call (800) 798-9250, or e-mail jrmfg@mcs.net

For Protectoseal lockers, the telephone number is (630) 595-0800, or e-mail info@protectoseal.com

For Delta lockers, call (208) 529-8545, or e-mail delta@directinter.net

Which half-face respirator is preferred for shipboard use?

The type of respirator required depends on several factors, including the hazards associated with the work and how well the respirator fits its user. There is no "one size fits all." To comply with OPNAVINST 5100.19D, Chapter B8, your shipboard respiratory manager must have at least two different manufacturers' respirators. Also read Chapter 6 of the instruction for more respiratory management and use requirements. Check your ship's industrial hygiene survey for more information. Meanwhile, two other web sites you might find helpful are those for the Navy's Environmental Preventive Medicine Unit 5 and the Navy Occupational Safety and Health and Environmental Training Center. They are:

http://www.spawar.navy.mil/usn/nepmus/index.html

http://www.norva.navy.mil/navosh/

Is it required to paint a yellow square under an eyewash station?

The simple answer is, "No." However, OPNAVINST 5100.19D does state, "Clearly mark eyewash stations with a green sign with white lettering stating, 'EMERGENCY EYEWASH STATION.'"

These signs can be ordered through the Navy supply system using Navy stock number 9905-01-345-4521. The sign are to be posted in a visible location close to the eyewash unit.

Drunk Driving

The Problem

- Impaired driving will affect one in three Americans nationwide during their lifetimes.
- Alcohol-related motor-vehicle crashes nationwide kill someone every 30 minutes and injure someone every two minutes.
- Navy statistics for the last five years show Sailors are dying in alcohol-related motor-vehicle crashes at the rate of one every 17 days, compared to one every 6.1 days in previous years. Using these figures, a Sailor ending a 20-year career today will have seen 1,197 shipmates die in alcohol-related motor-vehicle crashes.
- Marine Corps statistics for the last five years show Marines are dying in alcohol-related motor-vehicle crashes at the rate of one every 29.5 days, compared to one every 13.8 days in previous years. Using these figures, a Marine ending a 20-year career today will have seen 459 fellow Marines die in alcohol-related motor-vehicle crashes.

Groups at Risk

- Nationwide, male drivers in fatal crashes are nearly twice as likely as female drivers to be intoxicated with a BAC of 0.10 percent or greater (exceeding the legal limit in all states).
- The risk of being involved in an alcohol-related motor-vehicle crash is greatest for 21-year-old Sailors and 22-year-old Marines.
- Nationwide, young men ages 18 to 20 (too young to buy alcohol legally) report driving impaired as often as men ages 21 to 34.

Risk Factors

- Drivers nationwide ages 35 and older who have been arrested for impaired driving are 11 to 12 times more likely than those who never have been arrested to die (eventually) in crashes involving alcohol.
- Nearly 75 percent of drivers nationwide convicted of driving while impaired are frequent heavy drinkers or alcoholics.

Navy/Marine Corps Prevention Initiatives

- Discuss the perils of drinking and driving during safety stand-downs and ORM-training sessions.
- Encourage use of a designated driver.
- Publish items in Plans of the Day and ship and station newspapers.
- Initiate a "safe cab" program, so Sailors and Marines can call a cab, rather than drive after they've been drinking.
- Stage shipmates' wrecked cars in view of all hands.
- Consider "intrusive leadership" as a way to stay connected with junior personnel and to enhance their survivability and welfare, particularly on weekends and holidays.

Resources

- Naval Safety Center (www.safetycenter.navy.mil/ashore/motorvehicle/default.htm)
- National Highway Traffic Safety Administration (www.nhtsa.dot.gov/people/)
- AAA Foundation for Traffic Safety (www.aaafoundation.org/home/)
- National Safety Council (www.nsc.org/issues/drivsafe.htm)
- National Center for Injury Prevention and Control (www.cdc.gov/ncipc/duip/duip.htm#mv)

WORK ZONE

REDUCING MISHAPS BY 50%

The Worst Times for Car Wrecks

(Based on 376 Navy traffic deaths and 302 Marine traffic deaths between FY98 and FY03)

Day of week: Saturday (26%)

Time of Day: Sailors 0200-0259 (40 deaths)
Marines 0530-0629 (27 deaths)

Month: Sailors - July (44 deaths), August (43 deaths)
Marines - April (35 deaths), July (34 deaths)

Date: Sailors - July 14 (5 deaths), Dec. 23 (5 deaths)
Marines - Dec. 23 (5 deaths)

One-hour period: Saturday, 0030-0129 (12 deaths each)

What You Can Do—These Things Work!

- Leave chit statement of travel plans
- Command transport for social functions
- Pre-trip checklist/brief/counseling
- Calling card for emergencies
- CO's traffic-safety policy
- Traffic safety quiz
- Safety stand-downs/seminars
- Pre-holiday briefs
- Newcomer orientation/indoctrination
- Crash-prevention awards program


NAVY