

# The Submarine Division of the Naval Safety Center Presents:



# FLASH

## Factual Lines About Submarine Hazards

August 2001 – September 2001

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### WARNINGS, CAUTIONS AND NOTES

The FLASH is a newsletter that provides safety-related information to the fleet. This information is a summary of research from selected mishaps and surveys done throughout the force. This data is provided to assist you in YOUR mishap prevention program and gives advanced notice of other safety-related information.

**This newsletter is NOT authoritative but will cite references when available.**

# **Editor's Thought**

**ETC(SS) Houck**

Last month's "Editor's Thought" should have helped to open your eyes about what the Naval Safety Center does. I would like to also point out that we conduct mishap investigations, operational risk management (ORM) training, and provide safety feedback to Naval Sea Systems Command and other organizations when conditions warrant. ***We are not a purchasing agent or an approval authority!***

So, when we started receiving feedback about the "tactical vest" from the fleet I was amazed. We notified the fleet (about our safety concerns associated with the vest) trying to prevent Sailors from possible injury or worse. The general response from the fleet was a little disheartening. We heard things like "What are we going to use now?" (***What did you use before?***); "Why did you buy them if we can't use them?" (***We are the Naval Safety Center not Naval Supply Center.***) and "We conducted a test and they worked fine." (***Is your command a testing or approval authority?***) The answer to all the questions is that our job is to help make the fleet safer. So we not only ask the stupid questions but the hard questions as well. We will continue to do so regardless!

By the way, the problems associated with the "tactical vest" were known by several in the fleet well before we got involved. I would like to point out that submariners were responsible for bringing the problems to our attention (Kudos!). We can't help if you don't let us know who, what, and/or where the problems are.

As submariners we are taught to always maintain a questioning attitude. This is one of the principles that help keep us safe. Another is don't be the most senior person with the knowledge of a problem (This helps keep your backside safe!).

## **Give Your Safety Officer A Hand**

**EMC(SS/SW) Seplak**

Question: What do the following items have in common?

- -A fire in an RPFW pump motor.
- -Two ET3s getting shocked by shore power cables in poor condition.
- -A switchboard fire resulting from shore power

Answer: The commands did not recognize these incidents require sending a mishap report to the Naval Safety Center.

During the last couple of months we have stumbled onto a few instances where we had to contact various commands and remind them they need to send a mishap report. This information is input into a database and used as a tool for training (lessons learned), trend identification, and indication of defective equipment/design.

In OPNAV 5100.19D (with advance change 1/1) there are guidelines on the classification and the reporting requirements for mishaps. The reporting requirements are as follows:

**Class A Mishap:** Total cost of reportable damage is \$1,000,000 or more **or** any injury or work-related illness resulting in death **or** permanent total disability

**Class B Mishap:** Total cost of reportable property damage is \$200,000 or more, but less than \$1,000,000; **an** injury or work-related illness resulting in permanent partial disability; **or** a mishap resulting in the hospitalization of three or more people.

**Class C Mishap:** The resulting total cost of reportable property damage is \$20,000 or more, but less than \$200,000; **or** an injury or

disability preventing personnel from performing regularly scheduled duty for 5 days (1 day for embarked Marines) or more after 2359 on the day of injury or onset of illness.

**Afloat Special Case Mishap:** The following special case afloat mishaps require the submission of the indicated report form:

1. All cases of electric shock. Include the voltage in the report. (mishap report, appendix A6-I)

2. All cases of grounding, collision and flooding. In the case of collisions involving only U.S. Navy or Military Sealift Command ships or craft, each command will submit a separate report. In all other collisions (including a ship running into a stationary object), the report will include an estimate of the damage to the other ship, craft, or object. (mishap report, appendix A6-1)

3. All fires. All cases except small trash or similar fires in which no personnel were injured and the material damage was limited to the container in which the fire originated. (mishap report, appendix A6-I)

4. All cases of hazardous material, chemical or toxic exposure requiring medical attention. (mishap report, appendix A6-I)

5. All mishaps involving explosives, oxidizers, incendiaries, explosive systems or chemical warfare agents. Mishap include detonation, accidental launch, malfunction,

dangerous defect, improper handling, damage to a launching device, weapon impact off range, or other unusual or unexpected weapons-related occurrence. (explosive mishap or conventional mishap report, appendix A6-J)

6. All diving cases involving central nervous system (CNS) oxygen toxicity, pulmonary over inflation syndrome (POI S) or hyperbolic treatment. (diving mishap report with hyperbaric treatment, appendix A6-M or diving mishap report not requiring hyperbaric treatment, appendix A6-N)

7. All cases of back injury resulting from a mishap requiring medical attention. (mishap report, appendix A6-I)

Mishaps that are not reportable by this instruction are covered in the OPNAV 5100.19D Section A0601(d)(2)

Now that you know what types of mishaps are reportable, your next question may possibly be: "How do I report these?" Section A0604 of OPNAV 5100.19D covers all the reporting requirements, and Appendix A6-I gives a sample message format. Remember, if your boat has a casualty that falls into one of these categories remind your safety officer that a mishap report is required. If you have any further questions, contact the submarine section at (757) 444-3520 Ext. 7089 (DSN 564). The information you provide us will help to improve the safety of our fleet.

## ***Protecting Your Eyeballs***

***HMCS(SS) Brett Darnell***

There is a good reason why you have two eyes. Although similar, it's not the same reason for having two lungs, or two kidneys. You can live with one lung. You can live with one kidney. You can even live with one eye. But with one eye, much of what you are able to see now (and take for granted) will be gone. Many things you're able to do now (and take for granted) will be more difficult.

It's true that many people have adapted after losing eyesight in one eye, and lived a nearly normal life. But I think it's much easier to take precautions, and protect your eyes. Prevention is much less costly than rehabilitation. That's why we have a sight conservation program. Chapter B5 of OPNAVINST 5100.19D gives details of the program.

There are many things on submarines that are potentially dangerous to your eyes and eyesight. The safety officer should have a list of all known eye hazards and eye hazardous processes conducted on your boat. His list is derived from the industrial hygiene (IH) survey report. The IH report also lists the appropriate eye protection needed for each eye hazard listed. The appropriate eye protection should be readily available (and in clean, fully operational condition) at or near each eye hazard. The only thing left is for personnel working around an eye hazard to actually use the eye protective device(s) provided.

But what about accidents? You should be covered there too. If you splash something in

your eyes, there is an eyewash station in the AMR that is capable of flushing both eyes simultaneously and provides at least 15 minutes of flushing water. In addition, there should be personal eyewash bottles (NSN 6515-01-393-0728 or 6540-01-353-9946) readily available at or near nucleonics and secondary analysis stations.

The sight conservation program requires that the MDR examine crewmembers following the emergency use of an eyewash unit. In most cases, prompt treatment of eye injuries will prevent permanent damage or loss of eyesight.

The tools necessary to protect your eyeballs are in place. It's up to you to make sure that you use them.

## ***Who Performs Heat Stress Surveys?***

***HMCS(SS) Brett Darnell***

According to OPNAVI NST 5100.19D, B0202b(5), for submarines, the MDR conducts heat-stress surveys in engineering spaces. That's a change from the previous version of the instruction.

In the past, the engineer was responsible for designating, training and qualifying engineering department personnel to perform heat stress surveys in engineering spaces. The MDR was responsible for heat-stress surveys in non-engineering spaces. So, why the change?

First, the air-conditioned submarine engine room normally doesn't get warm enough to warrant heat stress surveys. Second, during drills when air conditioning may be secured for short periods, stay times for the conditions present are longer than the total time of the drill. Air conditioning gets restored as soon as the drill is secured and there is no need for continued monitoring.

The question I want to ponder is this: Is it wise for a submarine to have only one trained heat stress monitor on board? On submarines, we design everything with a back up (sometimes even the back up has a back up). Who will back

up the MDR in heat stress monitoring if he is unable to do it (e.g. tied up with a serious patient, MDR sick, etc.)? What if there is an engineering casualty that has disabled air conditioning for an extended period of time, while, simultaneously, the MDR is treating a crewmember with appendicitis? ***DO YOU HAVE A PLAN B??***

I believe it is appropriate for submarines to have a small group of individuals designated, trained and certified as heat stress monitors for just such a situation. However, if you plan to do that, there is a required PQS to be completed. According to B0206b, heat-stress monitors assigned to perform WBGT surveys shall be trained and qualified using the Heat Stress Surveyor Watchstation 303 of the Safety Programs Afloat Personnel Qualification Standard (PQS), NAVEDTRA 43460-4B within 12 weeks of assignment.

In the unlikely event of a situation like I described above, you wouldn't want to be caught with your pants down. Being prepared is inexpensive compared to the cost of finding out when it's too late that you're not ready.

# **SUBMARINE QUARTERLY MISHAP SUMMARY FOR 3RD QTR FY01**

**LCDR Swan**

The following are reported mishap statistics involving submarine commands for the third quarter FY01:

Submarine (On Duty)	# Mishaps (Class)				Lost Workdays (Class)	
	A	B	C	Special	B	C
	0	0	7	8	0	72

Off-Duty and Motor Vehicle	# Mishaps (Class)			Lost Workdays (Class)	
	A	B	C	B	C
	0	0	8	0	152

**Examples include:**

**Class A Mishap:** No deaths or permanent total disabilities were reported this quarter.

**Class B Mishaps:** No permanent partial disabilities were reported this quarter.

**Class C Mishaps (On Duty):**

1. While investigating a hissing sound (oxygen flow meter leak), a MM1 shut the oxygen flow meter inlet and outlet valves simultaneously. The flow meter ruptured, fracturing his finger.
2. While rigging a heat exchanger head into place, MM2's finger was caught in a hole as the head slid into place. The middle finger was partially amputated after the first joint.
3. MS2 volunteered to reorganize and load the freezer. After three and one half-hours, the LPO noticed that MS2's hands were purple and cut. MS2 was not wearing gloves and had frostbite on eight fingers.

**Class C Mishaps (Off Duty):**

Four occurred during recreation activities (basketball, skydiving, snowboarding, and swimming). There was also one ladder fall (broken collarbone), and one pedestrian mishap (broken lower leg). Two motor vehicle mishaps were reported for the quarter.

**Special Case Mishaps:**

There were five electrical shocks, two chemical exposures (chemical burns), and one class "C" fire.

**Editors note: AGAIN!**

1. OPNAVINST 5100.19D, dated 05 OCT 00 with ACN 1/1 message 041820Z MAY 01, is the only document to use for reporting afloat mishaps. Several commands (that reported mishaps) continue to use OPNAVINST 5100.19C. One command reported a mishap in May using OPNAVINST 5100.19C but did use OPNAVINST 5100.19D when they reported another mishap later in the quarter. *Looks like some of you really do read the Flash.*
2. If you are reporting mishaps using anything other than OPNAVINST 5100.19D, Chapter A6, you didn't read the June/July 2001 Flash article.
3. Compared to the second quarter, the number of mishaps fell by one third from 36 to 23. In addition, the number of missed workdays fell by more than half (54%).
4. Why should you report mishaps?
  - a. Reported mishaps are used for statistical data. This data provides the clout needed to ensure funding from Congress for the changes needed to have a safer submarine force. (The information is not used against the reporting command.)
  - b. To allow the Naval Safety Center to identify trends in the fleet that may prove hazardous.
  - c. To develop "Lessons Learned" to help prevent mishaps.

# Our Piers Need Some Work

*EMC(SS/SW) Seplak*

How many times have you driven through a neighborhood and saw a house that looked like it belonged on wheels? (With an abandoned vehicle; old refrigerator; tires; and knee high grass in the front yard) (Can you say trailer park? I knew you could.) This isn't the image you want your house to portray. Why should the place where you work be any different? We occasionally walk the piers to see how our submarine front yards look and we find a lot of interesting and sometimes unsafe conditions.



So the wooden troughs are for what?



Same place, two months later...Hmmm?



The water should be inside the hose right?



Can we pile anything else on the energized cables?

With all of the different organizations that bring equipment on our piers, it can be overwhelming to keep the pier in a tidy condition. It's up to every boat on the pier to keep the normal daily clutter to a minimum. Don't forget to keep an eye on these organizations at the end of the workday. If you don't, you may have to clean up their mess too!

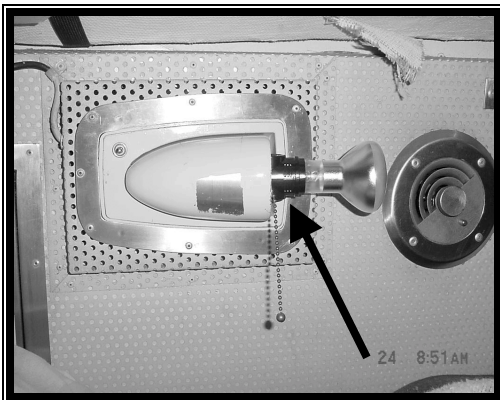
If you identify safety-related or common-sense items that need correction, take the initiative to fix the problem. If you can't fix the problem, call your public works (safety officer), squadron, or even your type commander to assist you in resolving the problem. When you make enough noise, they will come (the squeaky wheel always gets the oil). It's always better to clean up your own mess before someone else tells you to do it!



## The Chickenhead Award



The Chickenhead Award is dedicated to those unexplained and sometimes even bizarre items we have seen during our travels. If you would like to submit photos for Chickenhead Award consideration, contact Chief Houck at (757) 444-3520 Ext. 7098 (DSN 564), or e-mail at [chouck@safetycenter.navy.mil](mailto:chouck@safetycenter.navy.mil). We will not publish who or where the photo was taken (the intent isn't to embarrass anyone.) The whole idea of this is to help keep submarines aware of potential hazards and to clean up our own mess before someone else does. **No one in the fleet provided inputs for this month's award? IF YOU'RE SCARED, JUST SAY YOU'RE SCARED!**



Unauthorized Bunk Light Alteration

The winner of this issue's Chickenhead Award comes from a place near and dear to every submariner, the rack. The arrow points to a bunk light that has been altered so this person can plug in whatever accessories he uses in his rack (*Don't ask, don't tell.*) No matter how ingenious it is, it still is unauthorized.

### **But Then I Can't Play My Nintendo?**

## Bits and Pieces

- We mailed afloat training CDs (version 4) to all ships/submarines on 21 Aug 01 and to other afloat commands on 7 Sep 01.
- What's the status of your PMS? (See page 7 of June/July 2001 Flash. *Pitiful!*)
- Are you still using the tactical vest? (See page 2 of June/July 2001 Flash.)
- Are your vari-nozzles reliable? (See page 4 of June/July 2001 Flash)
- Do your berthing areas have unauthorized electrical modifications? (See page 2 of April/May 2001 Flash and Chicken Head Award article above)

## Hasta La Vista

We bid a fond hasta la vista to FTC(SS) Jay Bramble after a 3 year tour. Chief Bramble served as a submarine/surface ship safety analyst as well as the editor of FLASH for two

years. He reports to the USS Oklahoma City SSN 723 as the FT LCPO and safety officer. We extend our best wishes to Chief Bramble, his family and most of all, the OK City!



# **Effective COMNAVSAFECEN Afloat Safety Advisories**

## **Year 2001**

13-00	201909Z OCT 00	GPS and Charts
17-00	201959Z DEC 00	Contract Liberty Boat (Water Taxi) Safety
1-01	041730Z JAN 01	Effective Afloat Safety Advisories for Surface Ships and Submarines
3-01	191215Z JAN 01	Follow-up on NAVSAFECEN Afloat Advisory 8-00 (Possibly Defective OBA Canisters)
4-01	241845Z JAN 01	Summary of Changes and Implementation of OPNAVINST 5100.19
6-01	031210Z MAY 01	Cancellation of Safety Advisory 11-00
8-01	171915Z AUG 01	Possibly defective OBA Canisters
9-01	041650Z SEP 01	COMNAVSAFECEN Security Clearance Information

To better utilize existing e-mail capabilities, we are building an e-mail address list of all ships' safety officers. We can use the list to supplement naval messages. For example, we can send an e-mail message to the ships' Safety Officers alerting them to the DTG of an Afloat Safety Advisory so they can start looking for it in the communication system.

Ships using a standard e-mail address for the Safety Officer ("safety" or "safetyo" (at) "domain".navy.mil) have successfully maintained continuity as Safety Officers rotate. During the relieving process, the new Safety Officer changes the password and has access to the previous e-mail. If your Safety Officer wants to be on our list, please have him or her send an e-mail to: [sscudder@safetycenter.navy.mil](mailto:sscudder@safetycenter.navy.mil)