

FLASH

Factual Lines About Submarine Hazards

Submarine Division of the Naval Safety Center

July - September 2013



Route for Safety's Sake

CO ___ XO ___ NAV ___ ENG ___ CSO ___ SUPPO ___ COB ___ DCA ___ Safety Officer ___

EDMC ___ MDR ___ 3MC ___ CPO Quarters ___ Ship's DCPO ___ 1st LT ___

We at the Naval Safety Center look forward to your questions and feedback.

In the spirit of "**ASK THE FLASH**," we have opened the FLASH up for write-in articles and cartoons. You can find the Naval Safety Center classified web page at <https://www.csp.navy.smil.mil/NSC-SUB> and the Naval Safety Center videos on You Tube at <http://www.youtube.com/user/dsteber1849>

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. The data is provided to assist you in **your** mishap prevention program and give advance notice of other safety-related information.

This newsletter is NOT authoritative.

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This issue of the FLASH covers the FY 2013 submarine safety survey findings focusing on the significant and most common discrepancies. PMS not being properly accomplished by personnel and verified by leadership is a common theme in many survey areas.

Welcome Aboard

HMC Thomas

Greetings; my name is HMC Frank Thomas. I have relieved HMC Christopher Harris as the submarine medical and hazmat surveyor at the Naval Safety Center. I look forward to working with all the submarine crews during my tour here at the Naval Safety Center. Our goal is to help prepare you, from a safety and ORM standpoint, for the successful execution

and completion of all your demanding missions. I am here to help you with any questions or problems that you might have, so please feel free to contact me at any time. My contact info is on page 11.

LCDR Ray

Greetings safety professionals. This will be my shortest safety article ever written. The topic is lessons learned. Back in the day, the submarine community signed out an instruction, CSL C5100.3 Safety Information Notes (SIN). It can be found on the CSL high side web site. It is dated from the 1990s but the articles are some of the best sources of experience available and are still applicable today.

The C5100.3 was the forerunner to the CSL/CSP C5100.38 Force Operational Notes. Lots of submarine lessons learned, unfortunately the hard way. And yes, unfortunately, the cost was a Sailors' life. Your charge is to review the above documents, train on them, understand risk management techniques, and prevent mishaps from occurring.

Damage Control MMCS(SS) Sisk

This FY year has actually been a good year as far as Damage Control is concerned. I have seen positive trends on a majority of the submarines in the fleet, so keep up the good work. The following is a list of the most seen significant discrepancies for FY 2013.

Photoluminescent Markings. Of units surveyed this FY, 78% have damaged or missing photoluminescent markings. MIP 6600/006 MRC 24M-1R describes in detail where the photoluminescent tape or labels are required. For damage control gear, all portable fire extinguishers, fire hoses, DC lockers, SCBA lockers, EAB lockers and EAB manifolds require either a label or tape to assist in locating the component in the dark. During upkeep periods, be mindful of removed bulkheads, lockers and equipment so that any photoluminescent markings that are removed are tracked and replaced after return of the equipment.

Damage Control Band-it Kit. Of units surveyed, 70% had band-it kits that did not contain all of the items listed on the MRC. MIP 6641/009 MRC R-2 requires the band-it kit to be inventoried after every use. This inventory is not a "here it is, I have a DC bag" inventory. All tools and materials need to be verified in good working condition. The strapping containers should be intact with 100' of $\frac{1}{2}$ " stainless steel strapping loaded. The 36"x36" rubber sheet can be cut into smaller sections for use and easier stowage. The most common dimensions are (3) 1'x3' strips. The MRC has a complete list and description of the tools and materials and should be the primary method for

inventory. All of the damage control bags are designed to be used for casualty situations and should not be depleted during drill scenarios. Recommend designated drill bags for training use and kept by the drill team. Actual band-it kit items then can be preserved for actual casualties.

SCBA's and SCBA Face Pieces. Of units surveyed, 63% had SCBA face pieces that were either damaged, requiring replacement, or missing valves or voice amplifiers. MIP 5519/016 MRC M-1R requires inspections of the SCBA and face pieces monthly and after each use. A detailed inspection of the face piece is a necessity. Most submarines have either the AV-2000 one piece or two piece SCBA face pieces which if damaged require an AV-3000 face piece to be ordered as a replacement per the note on APL 99A010026. The AV-3000 face piece does come with a Kevlar head harness which is authorized and covered by PMS. Other common discrepancies noted are the lack of a current SCBA functional test, which is covered by MRC 36M-1, SCBA bottle pressures less than the required minimum pressure of 4,000 psig and missing, damaged or expired 6" orange chemical lights attached. Maintaining SCBAs in a ready state will ensure the submarine is able to provide continuous attack of a fire if needed.

EAB's. Of units surveyed this FY, 58% had EABs with torn or soiled anti-flash gloves and flash hoods. MIP 5519/600 MRC Q-1 and R-1 require an inspection of these components quarterly and after every use. If you see any fraying, holes or tears, replace the components. If you have dirty gloves or flash hoods, it is acceptable to machine wash in lukewarm water and detergent (NSN 7930-00-634-0342) and then machine dry using a low setting. EABs are for everyone's safety when atmospheres require use so everyone should be looking at this gear, not just Auxiliary Division. Another issue is the cleanliness of the EABs. All EABs are required to be cleaned at least every quarter, so create a cleaning plan and incorporate the crew to achieve this plan so that all EABs are ready when the need arises. Cleaning an EAB mask requires more than disinfectant on pieces that touch the skin.

CO₂ extinguisher horns have been an ongoing issue in the submarine fleet. To receive the correct horn from supply, use the cage code 1U693 when ordering NIIN 01-377-3467. Thanks to LSC(SS) Oren on USS Louisville (SSN-724) for digging up this piece of information.

If you have any questions about these items or ideas of items to submit, feel free to call or e-mail me using the contact information listed in the FLASH on page 11.

*Deck
FTC/SS Macon*

MK-1 Auto-inflate life preservers

CONAX & Chemical Pill Inflators: Use 'em if ya got 'em!

DC PPE ISEA Advisory Notice 13-03, MK-1 Life Preservers Auto Inflators
As a result of high fleet demand, and limited availability of the CONAX inflator assemblies, **NAVSURFWARCEN Div Panama City SEP 13 (NOTAL)** authorizes the use of both the CONAX and chemical pill auto inflators until further notice. This changes the requirement for the ship to change out inflator assemblies prior to deployment in accordance with message 250930Z FEB 08. Good on you if your ship has made the switch to the CONAX inflators, but you can still use the chemical pills if you haven't made the change.

CONAX inflator assembly NSN-1377-01-302-2560

Chemical Pill inflator assembly NSN 4220-01-470-9906

PKG of 10 chemical pills NSN 4220-01-470-9908

**Electrical
ETC(SS) Dawson**

FY2013 repeat significant discrepancy.

Submarine Electrical/Electronic: Of units surveyed, 80% had portable electrical equipment, either government or personally owned (including ships entertainment components, coffee pots, portable extension lights, etc.), that were not being electrically safety checked in accordance with PMS.

Best Practice- Complete verbatim maintenance IAW MIP 3000/029 and follow the guidance of NSTM 300 paragraph 300-2.7.5 and OPNAVINST 5100.19E, B0702e(2). Utilize safety tag: NSN 0116-LF-985-4300. Ensure EGL/LGLs are utilized and correct PMS is being completed for fixed equipment (R-3) and mobile equipment (R-4).

Submarine Electrical/Electronic significant discrepancy: Of units surveyed, 65% had electrical or electronic shock hazards associated with personal bunk lighting.

Best Practice- Follow the guidance in CSL/CSPINST 5400.49, Article 4308 and OPNAVINST 5100.19E, paragraph D0503. Ensure plastic and Surelite fluorescent lamp light starters [cage 07329] are not being utilized.

Submarine Electrical/Electronic significant discrepancy: Navigation Lighting Panel N-1: FY2012 repeat discrepancy. Of units surveyed, 60% had shock hazards in the navigation lighting panel.

Best practice- Complete applicable A&I, ensuring all interlocks, insulator screws, insulator bushings, shock hazard warning plate and new breakers are installed. REF: COMSUBLANT/COMSUBPAC A&I N-3171 for 688 Class, A&I TZ-0856 for 726 Class, MIP 4221/011, MRC S-1 for 688/21/774 class MIP 4221/012, MRC S-1 for 726 class. New breaker NSN 5925-01-576-8473.

Submarine Electrical/Electronic: Of units surveyed, 47% had submersible pumps that were not properly electrically safety checked, were not properly grounded, or the cables & connections were in bad repair.

Best Practice- Complete verbatim maintenance IAW MIP 3000/029. Portable pumps require the Q-1R and permanently mounted pumps require the S-1R MRCs to be accomplished.

Submarine Electrical/Electronic: Of units surveyed, 40% had unauthorized multi-outlet power strips in use.

Best Practice- Ensure only power strips listed in NSTM 300 paragraph 300-2.7.3.5 are being utilized. Complete verbatim maintenance IAW MIP 3000/029 A-11R.

Mechanical ETC(SS) Dawson

FY2013 repeat significant discrepancy.

Submarine Mechanical: Of units surveyed, 68% did not have a complete portable oxyacetylene cutting apparatus.

Best Practice- Complete verbatim maintenance IAW MIP 6641/031 24M-3.

Submarine Mechanical: Of units surveyed, 68% did not have a pneumatic grease gun configured IAW PMS and the technical manual.

Best Practice- Complete verbatim maintenance IAW MIP 5462/001 Q-1R; and follow the guidance of NAVSEA T6350-AA-HBK-010 Figure 2-1 (Submarine Greasing Handbook). With the most recent revision of the MRC, this maintenance can now be accomplished as written.

Submarine Mechanical: Of units surveyed, 52% did not have the point of operation guard (chip shield) installed on the drill press and/or lathe.

Best Practice- Point of operation guard (chip shield) is not available through the Navy supply system. The chip shield must be open purchased. REF: OPNAVINST 5100.19E paragraph D0804, Government Source - Rockford Systems, INC. Phone # 1-800-922-7533 or email - SALES@ROCKFORDSYSTEMS.COM

Submarine Mechanical: 46% of units surveyed had damaged and unsafe bench grinders.

1. Bench grinder wheels were used to grind non-ferrous metal. (Buildup of this material can cause imbalance and possible disintegration). REF: OPNAVINST 5100.19E paragraph D0804 g(3)f.

2. Tool rests were not installed and adjusted to within 1/8 " of the grinding or wire wheel. REF: OPNAVINST 5100.19E paragraph D0804 g(2)l

3. Transparent, non-shatter eye shields were not mounted over the wheels of the bench grinder. REF: OPNAVINST 5100.19E paragraph D0804.

Best practice- Follow the requirements listed in OPNAVINST 5100.19E paragraph D0804 g(3)(f), OPNAVINST 5100.19E paragraph D0804 g(2)l, and OPNAVINST 5100.19E paragraph D0804.

Submarine Mechanical: 41% of units surveyed had a trash compactor that had latches missing, excessively worn or broken, barrel not aligned, or non-operational interlocks.

Best Practice- Complete verbatim maintenance IAW MIP 5394/9R1, 2, or 3.

Medical HMC(SS) Thomas

Heat Stress thermometers: Of units surveyed, 44% did not have the NAVSEA approved hanging dry bulb thermometers permanently hanging at all key watch and work stations where heat stress conditions may exist.

Best practice- Order approved hanging dry bulb thermometers (NSN 6685-00-243-9964). REF: OPNAVINST 5100.19E paragraph B0204b(1).

Potable water equipment: Of units surveyed, 34% had potable water hose ends, wrenches, water risers, and caps were not painted dark blue.

Best practice- Have all potable water equipment painted blue. REF: NAVMED P-5010 paragraph 6-19.

CPR Certifications: Of units surveyed, 31% did not have at least 50 percent of all electrical / electronics associated ratings certified in CPR.

Best practice- Have at least 50 percent of these individuals certified in CPR. REF: OPNAVINST 5100.19E paragraph B0708b.

Potable water connections: Of units surveyed, 23% did not have their blue potable water hoses properly labeled "POTABLE WATER ONLY" every ten feet.

Best practice- Have all potable water hoses properly labeled or stenciled to read "POTABLE WATER ONLY" every ten feet. REF: NSTM 533 paragraph 533-2.1.3.

Potable water connections: Of units surveyed, 29% did not have approved personal eyewash bottles (NSN 6515-01-393-0728 or NIN 00-960-2326) readily available, in sufficient quantities in lieu of permanent or portable eyewash stations in nucleonic / water chemistry rooms and in secondary analysis stations.

Best practice- Order sufficient quantities of eyewash bottle (NSN 6515-01-393-0728 or NIN 00-960-2326). Eyewash bottles are also available from local SERVMART or local GSA. REF: OPNAVINST 5100.19E paragraph B0508c.

Hazardous Material HMC (SS) Thomas

Damage Control Team: Of units surveyed, 33% failed to have the DCA train each damage control team in HM spill response?

Best practice- DCA conduct training for the damage control team through ship's drills or team based training. REF: OPNAVINST 5100.19E, Appendix A5-A, B0304A(1)(B).

HAZMAT Locker: Of units surveyed, 30% did not have all flammables, hazardous materials, and chemicals appropriately labeled as to their hazards?

Best practice- Ensure all hazmat lockers, materials and chemicals are properly labeled. REF: OPNAVINST 5100.19E paragraph D1502E.

Submarine Material Control Program: Of the units surveyed, 25% did not have the Submarine Material Control Program audited annually by an officer other than the HM coordinator?

Best practice- Have an officer other than the HM coordinator perform an audit of the Submarine Material Control Program at least once per year. REF: OPNAVINST 5100.19E paragraph B0305.

Afloat Environmental Protection Coordinator: Of the units surveyed, 23% did not have their afloat environmental protection coordinator (AEPC) designated by the commanding

officer. These units did not ensure that the AEPC completed the AEPC course (A-4J-0021) or Afloat Environmental Interactive Courseware within 6 months of assignment and completed the required PQS 4352.

Best practice- Have command AEPC complete the required course and the required PQS 4352. REF: OPNAVINST 5090.1C paragraph 22-2.2.7.3, 22-2.2.11, 28-5.3.f.

HAZMAT Locker Labels: Of units surveyed, 22% did not have their stowage locations for HM posted with appropriate caution signs (NSN 9905-01-342-4851 for 10x7 inch or 9905-01-342-4859 for 3x5 inch) nor did their HM locker labels indicate the type of HM stowed within.

Best practice- Order sufficient quantities of the appropriate caution signs (NSN 9905-01-342-4851 for 10x7 inch or 9905-01-342-4859 for 3x5 inch) and properly label the HM stowage locations. REF: OPNAVINST 5100.19E paragraph D1503a.

Farewell
EMCM(SW/AW) Valdepeña

With 11 October 2013 being my last day at the Naval Safety Center, I would like to thank the submarine community for the overwhelming support that I received during my tour. I am honored and privileged to have had the opportunity to work outside of my community and work with/train some of the finest Sailors in my 26-year career. Ensure you maintain a questioning attitude and follow approved written procedures. It may just prevent a mishap! Currently, my relief has not been designated. If you are interested in making a fleet wide impact and drive policy, express your interest utilizing the contact information at the end of this FLASH.

Naval Safety Center Submarine Division Scheduled 1st QTR FY14 Travel Plans

Bangor: 5 Dec - 8 Dec 2013

Hawaii: 9 Dec - 13 Dec 2013

Groton: TBD

The following commands are overdue and need to schedule their submarine safety surveys:

USS LOUISIANA (SSBN 743) - Expired May 2012

USS NEBRASKA (SSBN 739) - Expired Oct 2012

USS NEW MEXICO (SSN 779) - Expired March 2013

USS SPRINGFIELD (SSN 761) - Expired March 2013

USS VIRGINIA (SSN 774) - Expired March 2013

USS PROVIDENCE (SSN 719) - Expired July 2013

USS PITTSBURGH (SSN 720) - Expired July 2013

USS HELENA (SSN 725) - Expired August 2013 (Scheduling message received from command)

USS MARYLAND (SSBN 738) - (Scheduling message received from command)

USS CALIFORNIA (SSN 781) - Due Now (post INSURV in June 2013)

The safety surveys for the following commands will expire during the 1st QTR FY14:

USS TENNESSEE (SSBN 734) - Due October 2013

USS CHARLOTTE (SSN 766) - Due October 2013 (Scheduling message received from command)

The safety surveys for the following commands will expire during the 2nd QTR FY14:

USS PASADENA (SSN 752) - Due January 2014

USS PENNSYLVANIA (SSBN 735) - Due January 2014

USS WEST VIRGINIA (SSBN 736) - Due March 2014

USS ALBUQUERQUE (SSN 706) - Due March 2014

USS ASHEVILLE (SSN 758) - Due March 2014

USS HENRY M. JACKSON (SSBN 730) - Due March 2014

Note: Safety survey scheduling requires a request message sent to the safety center from the ship or ISIC.

Additional survey information, request message template, and survey checklists can be found at

www.safetycenter.navy.mil. For additional questions, please call the submarine division at 757-444-3520 x7838.

Effective COMNAVSAFECEN Submarine Safety Advisories

2010

6-10	081904Z Dec 10	Asbestos Removal Protection
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2011

2-11	041532Z Mar 11	Heat Stress Meter Clarification
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3-11	071634Z Mar 11	Heat Stress Survey Clarification
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5-11	021648Z May 11	Reportable Mishap Clarification and Reporting
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7-11	201437Z Oct 11	Safety Survey Requirement Change
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9-11	181607Z Nov 11	Afloat Fall Protection
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2012

3-12	231505Z Aug 12	Reporting Afloat Mishaps
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4-12	291342Z Aug 12	Replacement of HMUG with NSTM 670
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2013

1-13	081702Z Jan 13	Effective COMNAVSAFECEN Afloat Safety Advisories for Surface Ships and Submarines
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2-13	101957Z Jan 13	Electrical Safety During PMS
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4-13	295572 Aug 13	Heat Stress Meter Certification
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