

The Submarine Division of the Naval Safety Center Presents:

FLASH

Factual Lines About Submarine Hazards

February 2002 - March 2002

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Editor's Thought

Several recent mishaps resulting in equipment damage have been directly related to breakdowns in PMS. The root cause of these mishaps was the lack of supervision and an inadequate review of PMS administration.

Department heads, division officers, and division leading petty officers should not accept any MIP or MRC line-through automatically. The work center supervisor should explain the reason for any item lined out. If another division is responsible for some of the PMS, verify between work centers that the PMS is on their schedule and it is being completed. Verify all MIPs and EGLs after entering changes in the work center records. All supervisors should thoroughly review paragraph 3-4.14 (scheduling exceptions) of the Ship's Maintenance and Material Management (3M) Manual. (OPNAVI NST 4790.4C)

A proactive PMS spotcheck program; PMS audits of departments, divisions, and work centers by the 3M coordinator; and proper supervisor involvement can minimize PMS errors.

****There were no worthy Chickenhead Award candidates for this issue. Not to worry though, the Chickenhead Award will return in the next issue of FLASH.****

Editor's Note

This issue of Flash is dedicated to the most frequently found deficiencies in each subject area during surveys of the submarine force for calendar year 2001.

Medical Deficiencies

- Are personnel assigned to perform wet bulb globe temperature (WBGT) surveys trained and qualified using the heat stress surveyor watchstation 303 of the safety programs afloat PQS, NAVEDTRA 43460-4B?

Solution: OPNAVI NST 5100.19D states that the MDR is responsible for conducting WBGT surveys in engineering and non-engineering spaces on submarines when conditions warrant such surveys be conducted. Many units have alternate heat stress surveyors designated just in case there is a need for on-going heat stress monitoring at the same time the MDR is attending to a medical casualty or an actual casualty (such as a fire) where the MDR would not be sent to the scene. I applaud the initiative and forethought of the units that have taken that step. The only problem is that, in most cases, the alternate heat stress surveyors are locally trained. The above PQS is the official training and qualification system for heat stress surveyors and is the only system that should be in use.

- Are the ends of potable water hoses, wrenches, water risers and caps painted dark blue?

Solution: The majority of the units surveyed do not even bother to paint the hose ends. Most potable water fill connections and caps have been painted dark blue at some point in the past, but are in serious need of repainting. The dark blue color is meant to indicate that the item (hose, connection, wrench, fitting, etc.) is to be used only to load potable water.

- Are personal eye wash bottles readily available, in sufficient quantities, near eye

hazards that are greater than 10 seconds or 100 feet from an eye/face wash unit?

Solution: Since there is no permanent eye/face wash unit in the engine room, there should be personal eye wash bottles (NSN 6640-01-065-9421) readily available near nucleonics and the secondary sample sink (at a minimum).

Here are a few other nagging items that we're seeing out there.

CPR Placards - We've seen CPR placards on several boats that direct the rescuer to use the head tilt neck lift method of establishing an open airway in an unconscious victim. That method has been replaced (for many years now) by the head tilt chin lift method. The CPR placards that contain the correct procedures for administering CPR are available through the supply system under NSN 0118-LF-019-6500. The requirement for posting CPR placards in areas where electrical work may be performed is found in NSTM 300.2.4.1.3.

Calcium Hypochlorite Shelf life - Some of you have calcium hypochlorite (HTH) on board that has exceeded the recommended shelf life. When your HTH is nearing the end of its shelf life, inspect it. If the bottles are intact, and the contents are still granular (not clumped), you may request to have the shelf life extended (see your Chop). The Hazardous Material Information System (HMIS) contains the information you need to request shelf life extension. Or, if you prefer, order replacement HTH and when it arrives on board, survey the expired HTH as HAZMAT.

Damage Control Deficiencies

- Are the OBA latches positive locking and guide rods straight? Submarines surveyed have had 30%-40% of OBAs placed out of commission. These problems were unknown to the crew because the guide rods are misaligned, bent, and even the wrong guide rods installed (two rights or two lefts).

Solution: Properly performing the 6641/ Q-8R will alleviate these common but deadly problems. Train the crew on proper use, handling and stowage of the OBA. Will your OBA function properly when used for a fire?

- On the range guard APC system, have the fusible links been replaced within the last 6 months? Is there at least 3" of free travel between the cable tube and the ends of the link assembly? This system is installed onboard submarines to help combat deep fat fryer fires and galley ventilation fires. This is what the system is designed to do, but on many boats it won't work because of insufficient cable travel to actuate the APC bottle. Another problem is that most systems are so dirty and greasy that it would be a fire hazard instead of a fire extinguisher.

Solution: Properly performing the required PMS per MIP 5556/004 would greatly enhance the ability for the system to work as designed. Don't forget to put the tag in place to identify when the PMS was last accomplished. We also recommend incorporating range guard PMS into the command monitoring program and/or PMS spot check program.

- Is the steam suit in good condition? (No tears, crimped hoses or deterioration) The answer to this question, more often than not, would be a resounding NO! Steam suits are designed to protect the wearer from extreme temperatures while in an environment filled with intense steam. Most steam suits throughout the fleet are being stowed improperly and causing the Cool-Flo hoses to become crimped or broken. This will cause the wearer to become overheated and could eventually kill him. During a casualty is not the time to find out that your steam suit is ripped either.

Solution: Do the PMS! Damage control equipment PMS is usually the responsibility of one person but it's the responsibility of everyone to identify and help maintain the equipment in good working condition.

Electrical Deficiencies

- Shipboard portable electrical equipment not being safety checked IAW PMS.

Solution: Ensure that all ship board portable electrical equipment is safety checked and all EGLs are current and up-to-date.

- Portable ship's control panel (bridge box) has degraded watertight integrity.

Solution: Ensure that all PMS (annual and situational) for the bridge box has been completed.

- Navigation lighting panels (N-1) have not had the A&I completed on them, or parts are missing or damaged.

Solution: Ensure that the A&I has been completed and is in good repair. (688 class COMSUBLANT/COMSUBPAC A&I N-3171; 726 class A&I TZ-0856) *This is the 5th year in a row for this recurring item. Take the time to fix it now!)*

Combat Systems Deficiencies

- Dummy-drill ammunition is not stowed and segregated properly.

Solution: Dummy-drill ammunition must be segregated and properly labeled. The ammunition can be segregated by using a spare ammo can, color-coded gold (for inert), and labeled "**For practice only.**"

**** Note:** *Blanks and grenade rounds are **not** dummy-drill ammunition. Do not store them together!*

- Pyrotechnics are not properly identified or color-coded.

Solution: All pyrotechnics are required to be identified by an inch-square piece of yellow, green, or red tape on the base of the device so a

final check of the color can be performed prior to launch.

- Otto fuel spill equipment.

Solution: We've listed this as a general discrepancy. Refer to OD 44979 Vol. 4 for the specific requirements of both spill kits. (Yes, you are required to have two spill kits.) The gag-assembly should not use a nylock nut or wing nut. The torque wrench and 9/16" deep-well socket should be readily accessible, and the torque wrench should be in calibration. And finally, the otto fuel detector should be in calibration and the detector tubes should not be beyond periodicity.

Divers Deficiencies

- Do service record entries properly document diver re-qualification?

Solution: Pull the divers' service records periodically and verify the entries are being made correctly. The qualification periods should account for "**every day**" that the member is qualified. There should be no lapses between periods (just like evals).

- Is the command using the Dive Reporting System and are they submitting the information promptly?

Solution: Ensure you are using the most current version (DRS 4.5) and e-mail them to us at diversalvage@safetycenter.navy.mil. If you have DRS 4.0 and would like to mail us a disk, that's fine too. If you're having problems with your DRS, please call us at 444-3520 ext. 7084 or e-mail us and we'll do our best to get you straightened out.

- Is the first stage of the single-hose regulator set at the manufacturers recommended psi setting? Are the test rig and tools available on board?

Solution: We recommend checking the over-bottom pressure as part of pre-dive checks as well as IAW MIP 5921/019 (24M-2R). With the overhaul of the regulator now being done every 24 months, you might be surprised at what you find.

- Planned Maintenance System

Solution: List all items covered by PMS as a single line-item entry. It makes tracking of **all** dive gear much easier. Make sure you have the current PMS force revision (several maintenance items have changed). Above all else, make sure the PMS is being accomplished **correctly**. You may be the diver whose life depends on that piece of gear.

General Departmental Deficiencies

- Are there any electrical or electronic shock hazards in personal bunks?

Solution: Do not make alterations to bunk lighting. If you need to add an electrical receptacle in your bunk, submit a LAR and if approved, install in accordance with the NSTM.

- Are the gaskets on flood-control doors in good condition, clean of dirt, debris, and paint?

Solution: Check the gasket material during zone inspections. Remove paint using the same techniques as for sound mounts. Replace them if necessary. The technical name for flood-control

doors is bilge baffle doors. The drawing for the doors gives complete references for size and type of material for the gasket material. The drawing numbers are:

SSBN: NAVSEA Dwg 4645488

SSN: NAVSEA Dwg 4456844

- Do the flood-control doors lock when their latches are released?

Solution: During the normal zone inspection, test the doors. Typically the doors are found to have gasket material that is too thick and not allowing the door to close far enough to latch.

Deck Deficiencies

- AI LUP MK 5 MOD 0 missing distress markers and water activated battery. Battery age is beyond three-year shelf life.

Solution: Ensure PMS MIP 5832/012 MRC S-1 is completed on every AI LUP in your inventory. PMS spot checks from the command leadership would help ensure this lifesaving equipment is ready when it is needed.

- Float lines are not assembled IAW NAVSEA Dwg 804-5000915 (Rev. A).

Solution: Get a hard copy of the NAVSEA drawing, inspect your float line, and ensure it meets all the drawing requirements.

- Naugahyde hatch covers not in place on all access hatches.

Solution: Have IMA manufacture proper size hatch covers and use them.

Mechanical Deficiencies

- Bench grinders are in general disrepair (e.g., tool rests and grinding wheel hoods not adjusted properly, non-shatter eye shields loose/broken/missing, light bulbs missing, electrical connections chafed or having exposed wires).

Solution: Perform proper maintenance and pre-use checks on bench grinders (IAW technical manual and OPNAVI NST 5100.19D).

- Pneumatic grease guns are not configured IAW the submarine greasing handbook.

Solution: *Supervisors* need to take the time and spot-check their pneumatic grease guns. Verify that pneumatic grease guns have all pieces required IAW submarine greasing handbook.

- Steam kettle PMS (MIP 6520/001) is not being accomplished?

Solution: *Supervisors*, spot-check your PMS.

Safety Officer Deficiencies

- Does the safety officer have a copy of the NAVOSH deficiency abatement plan (NAVOSH DAP)?

Solution: The safety officer can place in a binder the CSMP Option D printout (safety-related jobs only), the zone inspection program sheets that have safety-related items, copies of the latest inspections, and any other safety-related item that needs correction. The safety officer should track and ensure that the safety items are corrected.

- Are all required reviews of the atmosphere contaminant log conducted?

Solution: The XO should approve of all prohibited and limited items onboard. He should also review it prior to each underway to ensure that hazmat is minimized onboard. Is the HM coordinator initialing the line items? Are department heads reviewing on a monthly basis? How about the DCA?

- Is the submarine material control program audited annually by an officer other than the HM coordinator?

Solution: Have the XO place the audit in his audit program so that it does not get dropped. This is a good review of the program. The auditor should receive a printout of SNAP report 42, which will list all the hazardous materials and compare that to the listing in SHIMS. If SHIMS is not being used, check FLASH (Dec 01-Jan 02) for the POC information. The hazmat data can be entered into SHIMS by saving the report 42 in electronic format and e-mailing it to the program manager. This list will be converted to a format that SHIMS can import readily. Check that lockers and material are properly labeled. Use the safety officer portion of the safety survey checklist for other items to review.

Diving Equipment Recall

COMNAVSEASYS COM Washington DC 010635Z Feb 02 (NOTAL), Diving Advisory 02-02, reports there have been two recent incidents of buoyancy compensator (BC) over-pressurization valves sticking in the open position. A product recall has been announced by Custom Buoyancy, Inc. for over pressurization valves used in BCs made under the following brand names:

- International Divers Inc (IDI)
- Diving Unlimited International (DUI)
- Ocean Management Systems
- Rip Tide
- Steam Machines

The only "authorized for Navy use" (ANU) buoyancy compensator affected by this recall is the IDI "Advantage" (Affected date codes are October 2000 through June 2001).

Commands with suspect equipment are required to call the manufacturer of the over-pressurization valve, Custom Buoyancy Inc. at 1-866-790-5099. More information on the product recall can be found on their website at www.custombuoyancy.com.

The message requests commands with the IDI Advantage BC in their dive locker contact Mike Leese (NAVSEA 00C35) at (202) 781-0705 (DSN 326) or e-mail him at leesemp@navsea.navy.mil.

**** Note:** *The IDI advantage buoyancy compensator has been changed in the Diving Equipment ANU from being "authorized for Navy use" to "authorized for use but no longer authorized for further procurement" based on unrelated non-safety concerns with the quality of the BC.*

New Anti-Flash Hoods

MMC(SS) Downham

COMNAVSEASYSKOM 121903Z FEB 02 (NOTAL) advises of a new fire fighting anti-flash hood available in the stock system. The new gray color anti-flash hood (NSN 4210-01-493-4694) is a replacement to the current brown color anti-flash hood and should be replaced through

attrition. The new anti-flash hood provides the same level of protection as the old anti-flash hood but at reduced cost. Submarines should obtain and review the message, then verify the condition of their existing anti-flash hoods.

The OBA and Hydraulic Rupture Story

MMC(SS) Downham

Recently many questions have come up regarding the use of OBAs during a hydraulic rupture casualty. Although NSTM Chapt. 555 and Chapt. 077 do not address this particular question, the 688/726 class casualty procedures (CPs) do. CP 62-17 (Section 2.1 Precautions and Limitations) states: (2.1.b) "A hydraulic rupture can create a dense fog of atomized oil. Personnel

in the area may need to don EAB masks or SCBAs." Furthermore, (2.1.c) "An oxygen breathing apparatus (OBA), where installed, should be used only if a fire has already started since the heat from the OBA canisters could start a fire." Those are only two portions of CP 62-17. Submarines are advised to thoroughly review all portions of CP 62-17.

MILSPEC Web Reference Tool

FTCM(SS) Clements

Have you ever downloaded a safety checklist from the Naval Safety Center web site and tried to find a copy of a MILSPEC used as a reference? Next to impossible to find, right? Have you looked on the net? The web site

(<http://astimage.daps.dla.mil/quicksearch>) has all current non-classified MILSPECS. It is a great place to go when you need to verify the latest version of a MILSPEC.

Hasta La Vista

We bid a fond, "Hasta la vista!" to STSCM(SS) Bob Krzywdzinski after a little more than a year and a half serving as webmaster, submarine safety analyst, and operational risk management facilitator extraordinaire. He has been assigned as the new command master chief

(CMC) of Submarine Squadron Support Unit (SSSU), Norfolk. We extend our best wishes to CMDMC(SS) Krzywdzinski, his family, and especially to those with whom he will get up close and personal at SSSU.

Effective COMNAVSAFECEN Afloat Safety Advisories For 2002

17-00	201959Z DEC 00	Contract Liberty Boat (Water Taxi) Safety
13-01	181710Z DEC 01	Possibly Defective OBA Canisters
14-01	281345Z DEC 01	Transferring Oily Waste
1-02	021945Z JAN 02	Effective Afloat Safety Advisories for Surface Ship and Submarines
3-02	241315Z MAR 02	GPS and Charts
5-02	041645Z MAR 02	Possibly Defective OBA Canisters
6-02	052035Z MAR 02	COMNAVSAFECEN Security Clearance Information

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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 advance notice of other safety-related information.

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

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