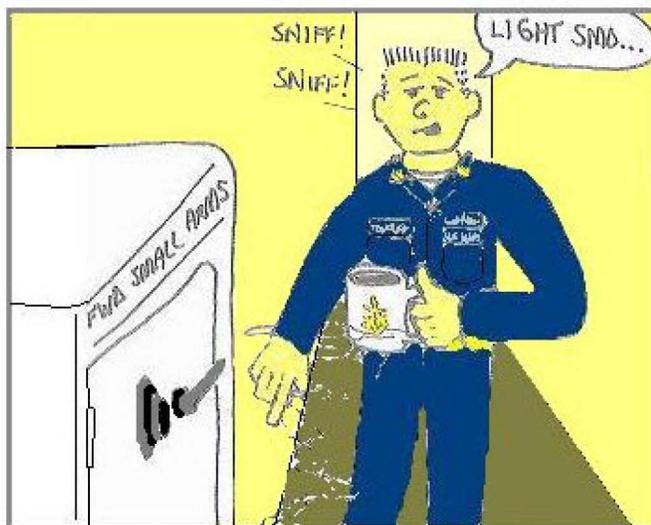


# FLASH

Factual Lines About Submarine Hazards

April - June 2011



MM1(SS) Turner

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 YouTube 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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### ***Leadership Though Follow-Up*** *CDR Carville Webb*

Whose fault is it when our Sailors do not complete their work correctly? It is becoming all too common to find basic maintenance, tag-outs, and watch standing principles not fully met. A MRC is considered the minimum maintenance required to maintain a piece of equipment in proper operating condition. If we accept 85%-90% accomplishment; Is our gear ready for war? If not, what standards are we shooting for? Regardless of the area monitored by my team this FY, we are consistently finding material representing in-complete Maintenance Requirement Card accomplishments. The more shocking issue is leadership is caught totally off guard when we point to the obvious.

Being prior enlisted, I clearly recall the lessons taught to me by my first Chief, ICC (SS) Greg Ferdig. He taught me every aspect of Submarine life including honor, respect, and duty. He would say the most important work you do, is the work done when you think no one is watching. He was nearly always the last person to leave for the day. When I had duty, I would see him following-up on our work to ensure, what we had accomplished was up to his standards. If I had completed a job below his standards, then he would watch me re-accomplish the task and guide me through to 100% satisfactory accomplishment. If this is not how you do it in your command, whose fault will it be, When you have a bad day at sea? Will you all live through it?

## **PMS Monitoring**

### **EMCM(SW/AW) Frank Valdepeña**

A. I conduct MRC monitoring on equipment with consistently poor readiness conditions as found during safety surveys. NSC advises your command via message what MRC's will be monitored and requests that the ship select the maintenance performer and ships monitor. Fourteen of 15 monitored evolutions in FY11 were "Below Standards" with only 1 of 15 graded as "above standards".

Common deficiencies found were as follows:

1. Tools, parts, materials or test equipment not presented IAW SPMIG, SCAT or adequate substitution methods. Examples include:
  - a. MRC 5462/001 Q-1R (Inspect Pneumatic Grease Gun)
    - 1) "Caliper" lined out and/or not utilized due to the incorrect assumption the tool was not required. Calipers are utilized in steps 1e (5) & (8) to determine outside hose diameter.
    - 2) Lubricating unit, power operated is not for a 50:1 ratio pump. Keep in mind, the one listed in the Misc. section is for a 40:1 ratio pump, as shown in the characteristics section of FEDLOG. If you have a 50:1 pump, have you submitted a TFBR to add the correct lubricating unit to the MRC?
    - 3) Utilizing incorrect PPE, (vented vice non-vented goggles).
  - b. MRC 4331/011 M-2 (Clean and Inspect BB-415,420/WIC Auxiliary Batteries)
    - 1) Utilizing vented or welding goggles vice non-vented (chemical) goggles.
    - 2) Utilizing electrical safety or soft nitrile gloves vice chemical gloves.
2. Verbatim Compliance of PMS procedures were not followed. Examples include:
  - a. 5462/001 Q-1R (Inspect Pneumatic Grease Gun)
    - 1) Parts and assembly were not IAW figure 1 and table 1 (missing or wrong scale gauges, missing disconnect fittings, missing or wrong length pipe nipples).
    - 2) Did not complete all steps or have needed tools onboard. See 1a(1) above.
  - b. MRC 4331/011 M-2 (Clean and Inspect BB-415,420/WIC Auxiliary Batteries)
    - 1) Insulated tools were not utilized.
    - 2) A thin or no coat of petrolatum was not applied to terminals or correct hazmat was not onboard!
3. Monitors using out-dated forms (Accomplishment Confidence Factor JFFM- COMFLTFORCOMINST 4790.3 REV B Change II and Wire Removal/Replacement Form MAT-2 COMFLTFORCOMINST 4790.3 REV B).

B. A successful 3M program consists of:

1. Assigning the right maintenance person for the maintenance task.
2. Ensuring all tools, parts, materials, and test equipment are correct or are the proper substitution. All items listed in the "Miscellaneous" section are required items.
3. Ensuring all PPE required by the MRC, OPNAVINST 5100.19E and HMUG are utilized.
4. Step-by-Step (circle and X method) verbatim compliance, including notes and cautions.
5. Proper deck plate (LCPO, DIV O, etc.) monitoring, supervision and follow-up of maintenance accomplishment. Ask the intrusive questions!

"Effective Planned Maintenance System (PMS) Completion & Monitoring Practices" training can be found in the Submarine Safety Officer Training, Topic 6, on the AKO/DKO Secure Site at <https://www.us.army.mil/>

# TOP Damage Control Significant Issues

*MMCS(SS) Sisk*

Well, half the year has passed us by and I have seen improvements in many of the Damage Control areas but a decline in some other areas. The following items are more than just your typical discrepancies, they are consistent and significant repeat offenders.

**AFFF Extinguishers.** 89.9% of units surveyed have AFFF extinguishers that were either over filled or under filled with solution or the PMS performed is not documented properly on the record tag IAW the PMS card. It is very important that the proper weights be achieved to meet the correct air volume/AFFF ratio to ensure that the extinguisher will work as designed. The new MRC's, MIP 6641/100 series A-1 and R-1 have examples of the record tags and how to fill them out correctly. Attention to detail is a key element in your equipment readiness to prevent minor fires from becoming major fires; this could be the difference between life and death.

**Submersible Pumps.** 77.8% of units surveyed have one or both portable submersible pumps incorrectly electrically safety checked, cable pulled from the connection (potential shock hazard), center screw missing from connector, or cable stuffing gaskets that had been modified, thus eliminating the water-tight connection. A submersible pump is designed to be submersed in water, so we can't afford to have potential shock hazards associated with this gear. MIP 3000/029 series MRC Q-7R requires electrical safety checks quarterly and after each use. Proper PMS is more than a check in the box; it is verbatim compliance to the PMS card and thoroughness of the maintenance person performing the maintenance.

**SCBA.** 66.7% of units surveyed did not have SCBA bottle pressures >4000 psig, 6" orange chemical lights attached/unexpired or donning procedures are not at each locker and verified by the DCA. MIP 5519/016 series MRC M-2 has you check the minimum pressure. This periodicity was changed from a weekly to a monthly this FR. It is very important that the SCBA bottles be charged to capacity, thus maximizing the fire team's ability to combat the casualty properly.

**Range Guard.** 50% of units surveyed had not changed the range guard fusible links within the past 6 months, there wasn't at least 3" of free travel between the cable tube and the ends of the link assembly, or not all the nozzles were being maintained as per MIP 5556/004 series MRC M-2 and S-4R (MIP 5556/726 series MRC M-1, S-1, S-2 for 726 Class). The importance of maintaining the APC system cannot be over emphasized. These key components, if properly maintained allow for automatic operation of the APC in the event of a deep fat fryer fire thus saving the day.

Ok, now on to PMS that has changed in FR 2-11: SSBN/SSGN's Galley Range Guard PMS (MIP 5556/726 SERIES) is now separated from other class submarines. SCBA bottle pressure checks (5519/016 SERIES) has changed from a weekly to a monthly requirement.

PAIU's: A unit in Bangor had noticed possible casting defects with the CO<sup>2</sup> cartridge bottle seating surface. The MRC does not have you inspect this surface and a TFBR has been submitted. Request all submarines with PAIU's, check the seating surfaces of all PAIU's cartridge area for possible casting defects and report to their ISIC.

For all Norfolk area submarines, "Fire X" no longer services APC cylinders, so for any APC cylinder hydrostatic testing, repairs or filling you will have to contact the following: Yates Fire Protection (757) 827-8696, 2314 60<sup>th</sup> St, Hampton, VA 23661.

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

## MK-1 Commercial Auto Inflatable Life Vest CONAX Inflator

*FTC (SS) Cahill*



Year= 07=2007

Month = L=November

During recent surveys, I talked with Sailors who recommended information be provided on determination of service life for CONAX inflators. So, in the spirit of FLASH suggestions, here is the information. AEL 2-330013101 Life Preservers Subs (Revision date of Apr 11) includes a note stating service life of new CONAX inflator is five years from the date it was manufactured. This date has been extended via NAVSEA to 7 years pending Naval Ships' Technical Manual Chapter 077 Personnel Protection Equipment (NSTM 077) update. The date can be determined by the lot number just after the "CAX" is a two digit number - that is the year it was made. The letter after the number represents the month: A= Jan, B=Feb, C= March, D= April, E=May, F=June, G=July, H=August, J= Sept, K=Oct, L=Nov, M= Dec (The letter "I" was not used for the month designation).

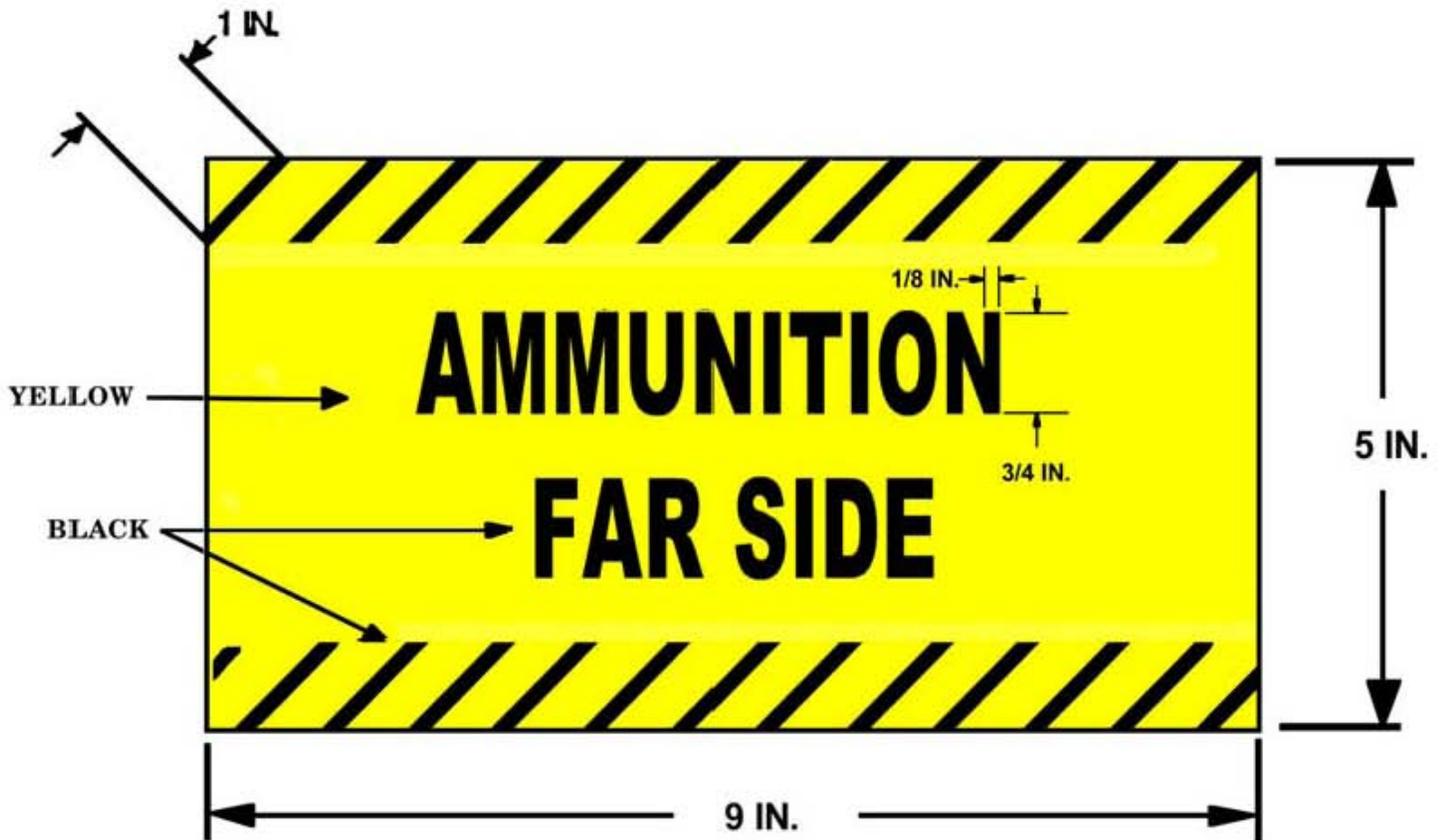
COMNAVSEASYS COM WASHINGTON DC 250930Z Feb 08 (Notal) requested replacement of the Chemical Pill Inflator at no cost. COMSUBFOR directed all submarine units to replace inflator assemblies with CONAX prior to their next deployment and provided ordering information starting with PMS FR 4-10 News letter. The ordering information continues through PMS FR 2-11 News letter. AEL 2-330013101 Life Preservers Subs (Revision date of Apr 11) lists allowance for life vests as 26 for SSN and 30 for SSBN (Allowance for free inflators). If submarine has life preservers over allowance, CONAX inflators can be obtained through normal supply requisition.

NAVAMMOLOGCEN MECHANICSBURG PA (Notal), AMMO INFO NOTICE 034-2011, 141940Z Feb 11 CONAX Battery Cap message paraphrased calls for replacement of CONAX inflators with black sensor cap that holds the 12volt battery in place. The sensor cap needs to be replaced with a beige/gray cap that has more torque in the spring to hold the battery. Each submarine will determine required replacements to include total number of vests onboard as replacement cap does not have an NSN assigned for normal ordering requisition (Example submarine has 35 onboard then 35 will be replaced at no cost). The new sensor caps must be requested by email to [sandra.yandell@navy.mil](mailto:sandra.yandell@navy.mil). Please provide quantity, complete mailing address and POC for delivery. The black cap shall be replaced within the next 180 days following the receipt of order.

## Ammunition Far Side Signs

*MMC (SS) Ingram*

62% of the submarines surveyed are not fully accomplishing the daily MRC associated with the "Ammunition Far Side" sign for the small arms locker. The sign should be located under the small arms locker on the torpedo room starboard side in the overhead. NAVSEA OP 4, Ammunition Afloat, states, "Ammunition Far Side signs shall be posted on the external side of all boundaries of ammunition stowage spaces except for those outside surfaces which are visible from the exterior of the ship." If you do not have replacement signs, they can be manufactured IAW OP 4 using the following specifications: The signs shall be paint-stenciled labels, painted signs, or permanently affixed adhesive reflective labels with a yellow rectangle, a minimum of 5-inches high by 9-inches wide. 1 inch black slanted lines are required along the top and bottom edges, not to obscure the letters. Letters shall be black, a minimum of 1/8-inch thick and 3/4-inch high. Markings on bulkheads shall be placed 5 feet above the deck and spaced 12 feet apart horizontally, if possible.



With the new aft small arms locker being installed, All units should ensure proper signs are being used and ensure proper placement of the signs throughout the ship.

## Heat Stress Monitor

*HMC(SS) Harris*

COMNAVSAFECEN 041532Z Mar 11 Afloat Safety Advisory 2-11 - Heat Stress Meter Clarification, the model RSS-220 Heat Stress Meter is no longer manufactured, is no longer in the Navy Supply System, and replacement parts are not available. If you have one or two of the RSS-220 meters in calibrated working condition, you can still use them for heat stress surveys. However, if they become un-repairable or will not pass calibration, you must purchase a replacement meter. The authorized replacement meter is the QUESTemp° 48N.

The QUESTemp°48N is a waterless wet bulb sensor (no more wetting or having to replace a wick) engineered for Department of Defense Ashore and Afloat Operations. It requires calibration every three years (just as the previous RSS-220). Ordering information is located in FEDLOG and provided below:

AEL: 2-870003051 NSN: 6685-01-584-0785 Price: \$3595.62



New QUESTemp°48N

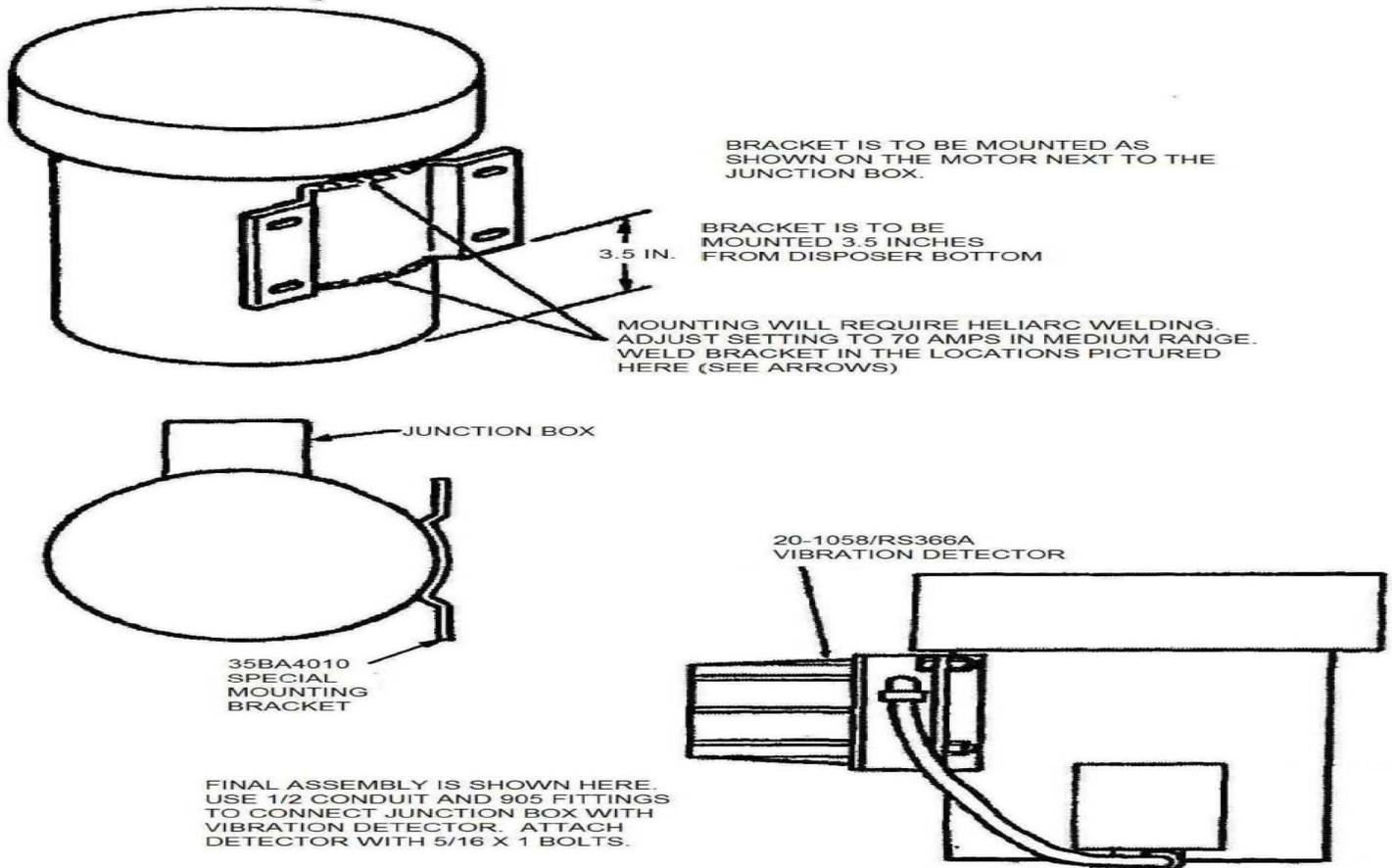
# Garbage Grinder and Vibration Detection Bracket

*ETC(SS) Dawson*

During the past six months, our surveyors have uncovered a persistent problem regarding potential electrical shock hazards associated with the galley garbage grinder and vibration detection bracket. A&I N3399 is guidance on the proper installation of the garbage grinder vibration switch bracket and grounding wire for both the operational and spare garbage grinders.

## Garbage Grinder Grounding Wire Installation Instructions

1. Tack weld a collar stud (3/8-16UNC-2A x 1-3/8 L (MIL-S-24149/1-542), NSN 9Z 5307-01-225-7814) to the support leg closest to the vibration switch bracket.
2. Fabricate a grounding wire using:
  - a. (1 pc, approx 12") Green number 8 gage stranded wire (MIL-W-16878/5BNL5) (NSN 9N 6145-01-429-8500)
  - b. (1) Lug, un-insulated, crimp, 8 AWG barrel, 3/8 hose (NSN 9G 5940-01-035-8776)
  - c. (1) Lug, un-insulated, crimp, 8 AWG barrel, 1/4 hole, (NSN 9G 5940-00-828-7199)
3. Install the grounding wire to the collar stud using (1) flat washer (NSN 9A 5310-01-385-7083) and (1) nut (NSN 9Z 5310-00-483-8790)
4. Connect the other end of the grounding wire to the garbage grinder motor housing using existing hardware. Note: remove paint from area of contact between the ground wire lug and motor housing.



INSTALLATION OF VIBRATION DETECTION BRACKET



THE LATEST FROM THE NAVAL SAFETY CENTER

*FTC (SS) Cahill*

**June 2011**

**Summer Safety Campaign:** As you receive this, Memorial Day stand-downs and the official arrival of summer have kicked off our annual summer safety campaign. The link to this year's resources is top dead center on our website main page at <http://www.public.navy.mil/navsafecen/Pages/home.aspx>.

You also find a new collection of sports-related do's and don'ts at <http://www.public.navy.mil/navsafecen/Pages/presentations/sports.aspx>

**Mid-Year Update:** The Navy and Marine Corps had a small spike in mishaps during a six-to-eight week period recently, particularly in aviation. This data may cause some to conclude that our mishap-reduction efforts have gone off track and that this Fiscal Year will see a reversal in the declining trends we have experienced in most mishap categories over the past few years. While the recent, short-term trends in a few areas are negative, it is important to view these trends in the light of our overall progress in reducing mishaps, both during this Fiscal Year and in comparison to previous Fiscal Years. See our Mid-Year Safety Update at [http://www.public.navy.mil/navsafecen/Documents/Safety\\_Update\\_May11.pdf](http://www.public.navy.mil/navsafecen/Documents/Safety_Update_May11.pdf) for trends and other data in the areas of aviation, PMV, RODs, PT and personal firearms.

**ATV Mishaps:** From FY05 to FY10, we averaged more than 50 ATV-related mishaps each year that killed or injured Sailors and Marines. As we go into the outdoor recreation season, we must consider the risks of any activity and apply the principles of risk management. NSC's Operations Research Division has completed a study of off-duty recreational ATV-related fatalities and injuries from FY05 to FY10. To request a copy of this study please contact the NSC Operations Research Division ([safe-statsfdbk@navy.mil](mailto:safe-statsfdbk@navy.mil)). For more information on ATV safety, visit the ATV Safety Institute website at <http://www.atvsafety.org/>.

**Firearms Incident Reporting:** Change 1 to OPNAVINST F3100.6J, Special Incident Reporting Procedures, was released on April 26, 2011. The instruction now mandates a report for any on- or off-duty incident that involves a firearm. This also includes all incidents in which the firearm was not discharged, such as illegal possession or brandishing of a firearm. Specific data to be reported includes demographic information concerning the offender and victim, and information about the offender's experience with the weapon.



The May issue concerns two mechanics who, after working all day, plan to drive through rush-hour traffic to party at a club that is at least two hours away. This issue invites you to apply your Time Critical Risk Management skills to their decisions. Check out this issue, entitled "What Would You Have Done?" at [http://www.public.navy.mil/navsafecen/Documents/media/deckplate\\_dialogue/DD\\_May11\\_TCRM.pdf](http://www.public.navy.mil/navsafecen/Documents/media/deckplate_dialogue/DD_May11_TCRM.pdf).

## Effective COMNAVSAFECEN Submarine Safety Advisories

### 2010

02-10 201149Z Jul 10 Afloat Electrical Safety  
06-10 081904Z Dec 10 Asbestos Removal Protection

### 2011

01-11 121837Z Jan 11 Effective COMNAVSAFECEN Afloat Safety  
Advisories for Surface Ships and Submarines  
02-11 041532Z Mar 11 Heat Stress Meter Clarification  
03-11 071634Z Mar 11 Heat Stress Survey Clarification  
04-11 191844Z Apr 11 Electrical Safety During PMS  
05-11 021648Z May 11 Reportable Mishap Clarification and Reporting

To download advisories listed above, mishap monthly summaries, and/or monthly digests; you must be on a ".mil" domain terminal and have a PKI certificate. Go to AKO/DKO Secure Site at <https://www.us.army.mil/> and sign-up for an account, if not already done. In the search box, type Naval Safety Center and click on the link for the home page. At the home page in the bottom left, click on folder labeled secure, then afloat, then messages, and download applicable information.

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<https://www.csp.navy.smil.mil/NSC-SUB/>

