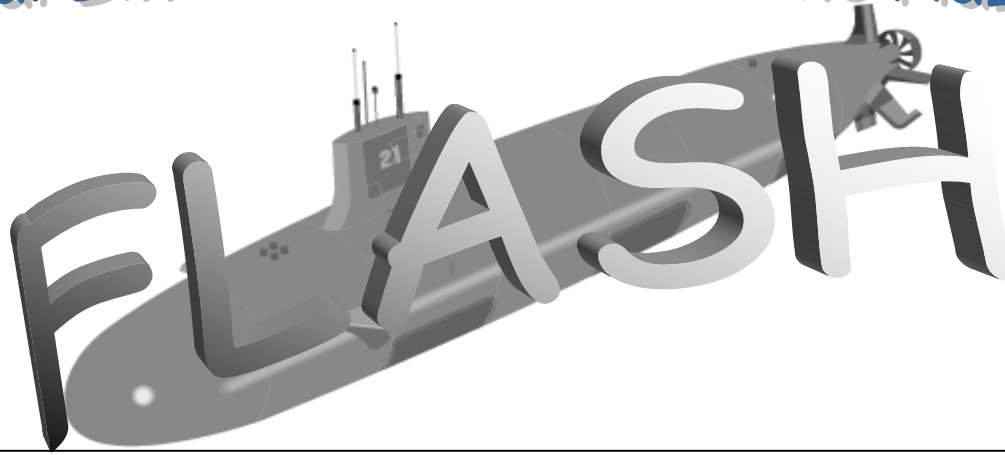


Submarine Division of the Naval Safety Center Factual Lines About Submarine Hazards



July-September 2006

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Route for Safety's Sake

CO _____ XO _____ NAV _____ ENG _____ CSO _____ SUPPO _____ MDR _____

DCA _____ COB _____ EDMC _____ 3MC _____ CPOs _____ Ship's DCPO _____

When reading through these articles, remember this is not an all inclusive list and there are many other issues that should be addressed with regard to each section's attribute checklist. Each section owner is cautioned to review the Hazard Reviews for each section. For further

information or assistance in improving your safety and/or processes go to:

<http://safetycenter.navy.mil/afloat/downloads/default.htm> - submarine.

NSTM Chapter 300 Confusion

ETC (SS) Mackey

Those of you in electrical ratings may be confused by Revision 7 to NSTM Chapter 300. Specifically, paragraph 300-2.4.2 (Checking for Energized Circuits) states:

"When conducting voltage checks, the general precautions of paragraph 300-2.3 ([General Electrical Safety Precautions](#)) and the energized equipment safety precautions of paragraph 300-2.5.2 must be followed until the circuit is proven to be de-energized."

Paragraph 300-2.5.2 (Energized Circuits Working Procedures) specifies a complete electrical safety boundary shall be established to comply with the procedures of paragraph 300-2.4.2. It states, "*The energized equipment safety precautions of paragraph 300-2.5.2 must be followed until the circuit is proven to be de-energized,*" for verifying electrical circuits de-energized.

We have received several complaints from the fleet concerning this revision. We contacted NAVSEA and were told that NSTM paragraph 300-2.4.2 is being revised. Revision 8 will delete the reference to paragraph 300-2.5.2 to eliminate the confusion. Another change will expand paragraph 300-2.4.2 to include guidance for detecting ghost or stray voltages. Revision 8 also will include testing and reducing the affects from stray voltages.

NAVSEA will not issue an ACN (Advance Change Notice) to remove the requirements of paragraph 300-2.5.2. The current requirements of paragraph 300-2.4.2 will remain in effect. Although this may cause some extra work on your part, you will be setting precedence for your junior sailors; and, Revision 8 will be out before you know it.

Damage Control

MMCS (SS) Morrow

As with most programs related to submarine life, the only constant in the world of damage control is change. Every PMS Force Revision brings new "opportunities" for success to the ship's damage control petty officer. This quarter, I'll highlight some of the new and most often missed opportunities noted on recent surveys.

LiOH PMS -Remember the day your LiOH curtain A&I arrived on board with no instructions or applicable maintenance, only the instruction to stow these new curtains? Help has arrived in the form of PMS. Force revisions have added MIP 5940 to the EDC1 PMS deck. Instructions on how to inspect the curtains and packaging for defects, as well as procedures to complete minor repairs to the

curtains, are included. Also, MRC 5940/R-1 requires weighing each LiOH canister with a calibrated 0-25 lb. dial scale and recording the inspection date. This PMS is to be accomplished two weeks before either a deployment or a scheduled patrol cycle.

SCBA 36M PMS - This PMS item will soon be on the schedule of many boats. The trick to accomplishing this PMS is reading the "preliminary" step prior to the week the PMS is due. This step requires the PMS to be performed by Scott "trained and certified" technicians using a test stand. Therefore this PMS will probably require the unit to submit their SCBAs to FMA for testing. It is easy to see how this item could easily turn

into a fiasco if you do not have a plan for removing SCBAs from service that has been approved by your command well ahead of the testing dates

K-90 Thermal Imager -One item that appears to break easily or is lost frequently is the AA battery pack for the K90. A close look at the APL for the K90 reveals that there is no listing for AA battery packs. We have verified with the manufacturer that the item listed as "Battery, Storage" with a NSN of 6140-01-502-2053 is the AA battery pack. Granted the wording of the APL leaves much to be desired; however the parts are available.

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Hearing Conservation Program Recurring Deficiencies

HMCS (SS) Juneau

The Hearing Conservation Program (HCP) is the most recognizable medical surveillance program on board submarines. During FY 06 safety surveys, a lot of programs were missing key elements to the HCP. Most submarine safety officers are unaware of their responsibilities concerning the HCP. According to Chapter B4 of OPNAVINST 5100.19D (W/CH-1), the safety officer shall:

1) Maintain a record of all noise hazardous areas and equipment. The baseline or subsequent industrial hygiene surveys can serve as documentation. One can request assistance from an industrial hygienist for noise measurements and exposure analysis.

2) Ensure that noise hazardous spaces and equipment are posted and labeled. The submarine's industrial hygiene survey report provides documentation.

3) Maintain a log of all permanent threshold shifts reported by the medical department representative (MDR). Review this log periodically to determine any trends that could indicate inadequate use of hearing protection or uncontrolled exposure to excessive noise levels.

As with most programs on board, this is not only the safety officer's responsibility. Division officers, LCPOs, and LPOs are responsible to ensure their personnel exposed to hazardous noise have and are properly using hearing protection devices.

For more in depth information on the elements of the Hearing Conservation program see OPNAVINST 5100.19D, Chapter B4.

Electrical

EMCS (SS) Brunberg

PMS-Some of our shipmates have noticed an error on MIP 3000/029 (S-10), Inspect Safety Shorting Probes. The MRC references the *Electronics Installations Maintenance Book* (EIMB). This valuable reference is no longer available and has been superseded. A PMS feedback report has been submitted to correct the error. The EIMB has been replaced by the *Interactive Electronic Technical Manual for Navy Installation and Maintenance*. Ensure you update your technical libraries with this new manual.

Title: *Interactive Electronic Technical Manual for Navy Installation and Maintenance* books:

Family Number: N0002400003

Pub Number: N0002400003

Revision Number: 00

Stock Number: 0910LP0039770

You can procure the manual from the Naval Logistics Library (NLL). Contact the NLL at (866) 817-3130, e-mail at <mailto:NLLHelpdesk@navy.mil>, or by visiting their website <https://nll1.ahf.nmci.navy.mil>. You will have to apply for a user I.D. and password. Click on "New/Update Account" on the right side of the page. Processing time is usually within 24-48 hours.

Recent Safety Survey Issues

-Missing hardware on the N-1 panel. A&I N-3171 and TZ-0856 for SSBN require plastic thumbscrews and plastic bushings around the cotter pins that hold the interlock bars on. Make sure your N-1 panel is in good repair and has a full set of plastic thumbscrews NSN 5970-01-094-3317 and insulating bushings NSN 5970-01-094-1582.

-Chemical goggles not readily available at the battery well. The SSORM requires wearing chemical goggles any time a cell is open. Yes that includes taking specific gravities. If you don't have them readily available at the battery well, your guys may forget to wear them. The NSNs for approved chemical splash goggles are NSN 4240-00-190-6432 and 4240-00-764-5152.

-FHL-14G fuse holders. A&I N-1207L requires filling the voltage test holes on FHL-14G fuse holders with RTV. This is to ensure the spray tight integrity of the panel. I find many fuse holders missing the RTV. Ensure the RTV is wiped off flush with the front of the fuse holders when resealing the holes. This prevents a blob which may cause the RTV to come out when someone brushes against the panel.

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The Year In Review

LCDR Chandler

Navy afloat Class A operational mishap rate (excluding PT related) for FY06 was better than FY05, with a mishap rate of 2.25, normalized per 100 ships, (7 mishaps) compared to 3.47. The 10-year average of 8.5 Class A mishaps was reduced to seven this year, equaling the lowest number in the previous eight years.

We had two mishaps during first quarter FY06. A CG lost her SQR-19 at sea while conducting PMS (estimated cost \$1.1M) and

aboard a CVN, a young E-3 suffered permanent total disability while conducting maintenance with a hydraulic press. We had one mishap in the second quarter when an SSN's stern impacted an oil boom and fiberglass fenders (est. cost \$1.3M). Third quarter was also a good quarter with only one mishap. An FFG experienced a crank-case explosion that dispersed lube oil into a ship's service diesel generator (SSDG) (est. cost \$2M). The fourth quarter was our worst

quarter with three mishaps. We started the quarter off with an SSN collision while submerged (est. cost \$2M), followed by an LPD with a Class A fire in a dryer exhaust ventilation line in the ship's laundry (est. cost \$1.8M), and finished with the tragic loss of two civilian mariners who fell to their death from a man lift while conducting maintenance.

Although this year was better than the previous five-year period in Class A mishaps, it cost the Navy and the country the lives of two mariners, one young Sailor is disabled for life, and an estimated \$8.2 million in property damage.

Safety Survey Findings - We completed 24 submarine surveys in FY06. The top concern on all platforms and all areas surveyed remains PMS: not completed, incomplete, and not properly documented. Examples include fire hoses without hydrostatic tests, life preservers and life jackets in unsatisfactory condition,

Start-up PMS not performed on life preservers, gauges out of calibration, and, for diving, HP compressor moisture separators and filter housings that aren't inspected and tagged. Submarines who scheduled a survey as required within 12 months of INSURV did well on INSURV. Those that did not: did not do as well. I recommend scheduling a survey within 6 months of INSURV (barring operational restrictions) to provide sufficient time to fix discrepancies; but, not so far out that the priorities drop off the plate and begin to back slide.

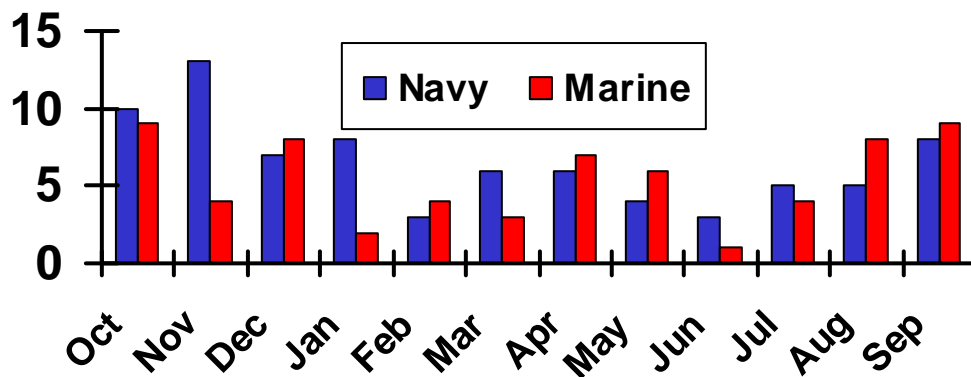
Training -- Completed ORM immersion on submarines. Also WESS training in all fleet concentration areas will be available to submarines FY-07.

OPNAVINST 5100.19E - Rewrite completed that will improve the afloat safety standards and regulations. Expect to publish in early 2007.

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Motor Vehicle Safety

LCDR Chandler



The "Traffic Fatalities by Month FY06" chart above indicates that we did a great job from March through June in reducing our monthly PMV mishap fatalities, but July - September saw an increase similar to what happened last summer. The submarine force has done better than most communities', with six total fatalities, but even one death is too many.

Our statistics continue to show that Sailors and Marines aged 18-25 outpace other age groups in motor vehicle fatalities. This group historically has the lowest seat belt use rate and is most likely to engage in risky driving behavior that includes speeding, driving while alcohol impaired, and driving while fatigued. There isn't a single attributable factor that can point

directly to the increase in motor vehicle fatalities. But, I'm convinced that mentorship, coupled with leadership, is the key to success in this area!

During FY06, there was an increase in the number of motorcycle fatalities, the majority in the 18-25 age group. We also saw a growing trend among older riders just getting into or returning to motorcycling after several years.

Revision of Navy Traffic Safety Program, OPNAVINST 5100.12H - Submarine safety officers and traffic safety officers take note: I expect this to be on the street soon. Planned

revisions include new policy on daytime running lights; driver-history profiles; entry-level traffic safety training (two hours annually, 18-25 age group); expanded driver-training options (National Safety Council Courses, Smith-System Training); PMV travel-time limits; unit PMV-safety inspections; and a proposal to have driver training implemented to target 18-26 year olds at different stages. Conduct an extensive motor vehicle mishap investigation to identify causal factors. Use the motor vehicle mishap template to assist with the investigation process.

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Proven Motor Vehicle Leadership Tactics

LCDR Chandler

Identify personnel in the high risk group who drive.

Ensure personnel are properly licensed by checking their license.

Advise personnel that reckless operation of their personal motor vehicle will have personal as well as career implications.

Provide an incentive program to reward personnel for good behavior.

Ensure all 18-25-year-old Navy personnel have received the entry-level drivers training required by OPNAVINST 5100.12G.

Identify all motorcycle riders and ensure they have attended the motorcycle safety training course.

Ensure motorcycle riders understand the requirement to wear an approved helmet and other protective clothing and equipment applies off-base as well as on-base.

Implement and advise personnel to take advantage of a command "Drive Safe" program.

Consider implementing driving "liberty restrictions" for high-risk personnel:

- restricted driving hours on weekends
- restricted driving after midnight and early morning hours

- restricted number of occupants in vehicles

Inform personnel that drinking and driving will not be tolerated and any incidents of DUI will be punished immediately under the UCMJ without regard to pending action by civilian authorities.

Repeat safe driving counseling measures on a daily/weekly basis as required prior to weekends, holiday weekends, leave periods, completion of deployment, major work-ups, while in port conducting routine business, or during major availabilities.

Emphasize the prohibition against using cell phones while driving on base and guard against other distractions.

Use the Naval Safety Center's website to glean best practice ideas to enhance your command traffic safety awareness. Engage the services of the local community in providing speakers for stand-downs such as the state and local police, MADD, medical personnel, etc.

As always, please feel free to contact me with any question that you have. Our staff of system experts stands ready to assist you and your crew.

Effective COMNAVSAFECEN Submarine Safety Advisories

17-00 201959Z DEC 00

Contract Liberty Boat (Water Taxi) Safety

1-06 031600Z JAN 06

Effective COMNAVSAFECEN Afloat Safety Advisories for Surface Ships and Submarines

2-06 021852Z AUG 06

Fire Resistant Paper (NSN 8135-00-966-2532)

To download, you must be on a .mil domain terminal and have a PKI certificate. Go to our secure web site by selecting the [Secure site](#) link. Once you are on the secure site, select the [Afloat Messages](#) link, and then select the [advisories](#) you need.

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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