

The Submarine Division of the Naval Safety Center Presents:

FLASH

Factual Lines About Submarine Hazards

April 2002 - May 2002

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Editor's Thought

ETC(SS) Houck

It's nice to see that type commander directed 3M assessments are back. This doesn't mean that boats shouldn't do their own assessments. As a matter of fact, if you haven't been doing your own 3M assessments (administrative and spot checks), then you are behind the power curve.

I would like to throw an idea out there concerning the formation of the assessment teams. Just because one wears khakis doesn't mean they are a 3M or PMS expert. A properly trained assessment team is critical in making 3M assessments a useful tool for the fleet instead of just another ticket to get punched. This can be ensured by having all members of the assessment team be 3M coordinator qualified. Just a thought.



Shore Phone Connection Electrical Safety Hazards

ETC(SS) Houck

****An electrical safety hazard concerning shore phone connections has recently been identified in Pearl Harbor, Hawaii and San Diego, California. Even though there has been no identification of this type of problem in SUBLANT, we encourage all submarines to read this article.**

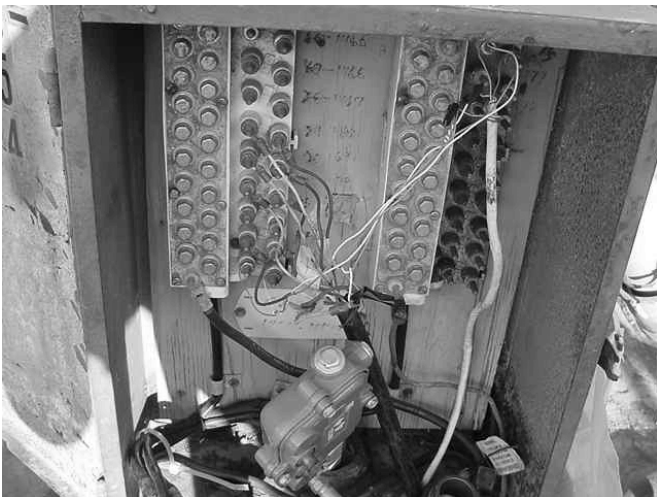
COMSUBPAC Tech Note 06-02 (241604Z APR 02 NOTAL) provides information on the potential electrical safety hazards and directs the use of appropriate electrical safety precautions when connecting and disconnecting shore telephones.

The problem, identified in Pearl Harbor and San Diego, is each wire of the phone cable has to be individually connected to separate terminals in the connection box. Each of these terminals



have a steady state 55 VDC and over 99 VDC; 30 milliamps if an incoming call is received (This data was taken in Pearl Harbor). All SUBPAC afloat units whose shore phone connections require direct contact with telephone terminals are required to follow the appropriate safety precautions in NSTM 300 for **working on energized equipment**.

We recommend all SUBLANT and SUBPAC submarines verify their shore phone connections do not require individual wire-to-terminal hook ups before connecting or disconnecting shore phones. If you find this type connection outside Pearl Harbor and San Diego, please contact me at (757) 444-3520 Ext. 7098 (DSN 564) or e-mail chouck@safetycenter.navy.mil.



How To Get The Heat Stress Monitor PQS

HMCS(SS/FMF) Darnell

To obtain a copy of the PQS for heat stress monitors, click on the following link: <https://wwwcfs.cnet.navy.mil/pqs/home.htm>. The heat stress monitor PQS is watchstation 303 of the Afloat Safety PQS, NAVEDTRA

43460-4B. All of your heat stress monitor personnel need to be trained and qualified using the PQS, in accordance with article B0206b of OPNAVINST 5100.19D.

What's A Range Guard?

MMCS(SS) Downham

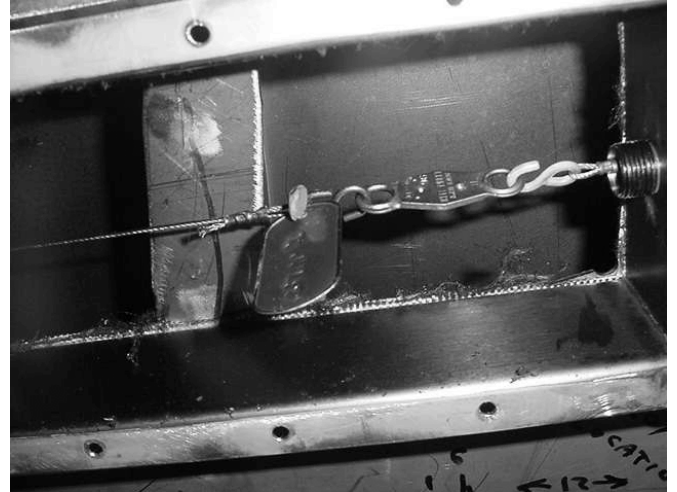
I ask the question, "What's a range guard?" because of what I've noticed in the submarine fleet regarding the range guard APC system PMS completion rate (or lack of a completion rate). As you can tell by the pictures that accompany this article, some systems are fire hazards instead fire extinguishers.



In FLASH (Feb-Mar 02) I addressed this issue as a top three damage control deficiency for 2001. (It currently is being driven right to the top of the list.) Some systems have not had the PMS accomplished in as long as 2-3 years (in one case almost 9 years). How can this be you ask? This is a case of expecting what you inspect instead of inspecting what you expect. (The PMS is a semi-annual requirement.)

Periodic spot checks should be done to ensure that your damage control petty officer

has a working knowledge of the system and that the system will in fact operate when actuated. I say this because most systems surveyed have multiple deficiencies that indicate a lack of system and PMS knowledge. These deficiencies include: not having sufficient cable travel (at least three inches); ventilation scissors



assemblies that are filthy (dirt and grease caked on and around them); ventilation systems with debris in them (e.g., plastic bags, paperwork, cleaning rags). All of these deficiencies are fire hazards.

If you have questions about your range guard APC system or its related PMS, contact me at (757) 444-3520 Ext. 7073 or e-mail at rdownham@safetycenter.navy.mil.

Is That Duct Tape Weight Tested?

HMCS(SS/FMF) Darnell

I wonder if anybody really expected a safety chain, held in place by duct tape, to prevent someone from falling through an opening in the upper level deck, to the middle level below.

Apparently, that's exactly what somebody expected recently on one of our submarines. It

didn't take long, however, to discover that a safety chain held in place by duct tape would be no match for the weight of an unsuspecting Sailor who happened to wander into it. The results were very painful for both the Sailor and his command.

Is That Duct Tape Weight Tested? (cont.)

You see, the 24-year-old machinist mate second class (auxiliaryman), after falling through the opening in the upper level deck, suffered a concussion, with amnesia, soft tissue injuries to his left shoulder, a broken right wrist and left ring finger, and dislocations of the right ring and little fingers. The injuries could have been much worse. His command, meanwhile, has lost a valuable asset. An experienced technician and watchstander is out of commission. His watches will be filled by his shipmates. Duty sections may need to be altered to fill the void. Some watchstanders may go port and starboard until a replacement for MM2 is trained and qualified.

How did this mishap occur?, you ask. Well, the ship had been handling weapons on the day of the mishap. During weapons handling evolutions, deck plates must be removed in upper level of the forward compartment. Safety chains are installed and available for use to prevent personnel from getting too close to the edge of an opening in the deck and falling through. In this case, the weapons handling evolution had been suspended for the day, to be resumed the following morning. Instead of replacing six of the seven upper level deck plates (one left open where the piston goes through), only three of the seven deck plates were installed. This left a much bigger area open to the middle level below, and no installed safety chains near the edge of the opening in upper level. A makeshift safety chain was placed near the edge of the opening along with a sign warning "Decks Removed." The safety chain was held in place using tape. There were two other safety chains in place on installed chain hooks. One was across the passageway at the forward entrance to control. The other was

across the entrance to the CO's stateroom. This left the rest of the passageway open. Personnel coming into upper level from the middle level ladder had unrestricted access to the area where the deck plates were missing. The only physical barrier to the opening in the deck they would encounter would be the makeshift safety chain across the passageway.

The MM2 was conducting a system inspection on a piping system located in the overhead in upper level. His attention was focused on the piping system overhead. He did not see the safety chain, the warning sign or the opening in the deck. By the time he made physical contact with the chain, which didn't stop his momentum, he was at the edge of the opening. With nothing to stop him and nothing to grab, he fell through the opening to the deck in middle level. And you know the rest of the story.

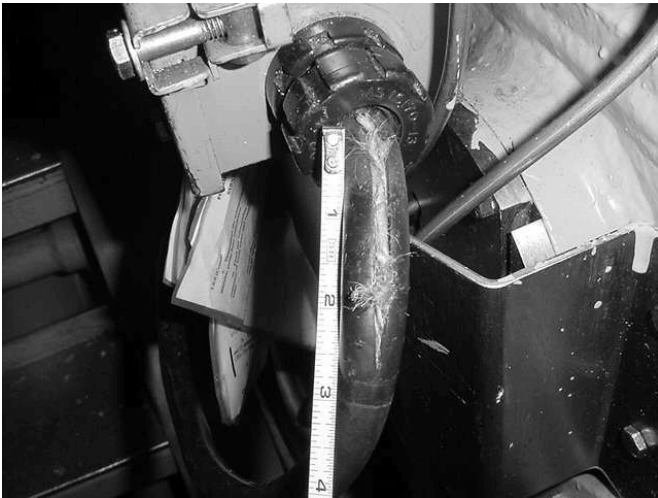
Of course, the MM2 could have been more aware of his surroundings, or maybe even had a shipmate walk the path of the piping system with him to ensure that he didn't walk into a hazardous situation. However, for a safety chain to be effective, it must be installed in such a way as to withstand the weight of a person walking into it, and it must be far enough away from the opening that it prevents someone from falling through. This safety chain didn't do either of those things.

We have to be sure to ask ourselves, "What could go wrong here, and how can I prevent it?" especially when operating in a mode you're not accustomed to. It doesn't cost much to go the extra mile and prevent a mishap. But it's very costly to lose a valuable member of your crew when it's preventable.

How Safe Are Your Submersible Pumps

MMCS(SS) Downham

When you use your portable submersible pumps will they save your life and your ship or will they electrocute the operator? The pictures on this page are just some of the examples of submersible pumps that have severe electrical safety deficiencies. Unfortunately, these conditions have become the rule vice the exception.



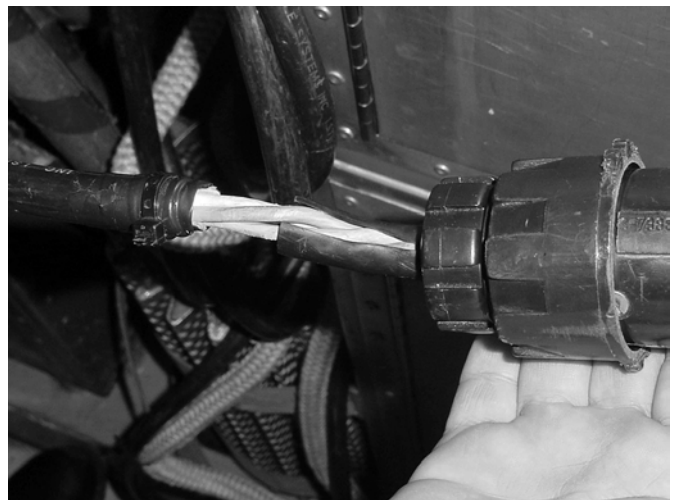
Three of four submersible pumps surveyed were unsafe due to various cable issues (e.g., exposed wiring where the cable is pulling past the rubber compression fitting, slices in the cable exposing wiring). The cables are supposed to be maintained and kept watertight.

When performing the required electrical safety check IAW MRC EL-002/029 (S1-R): (1) Extend power cable, if applicable; inspect sheath for cuts, tears, and abrasions. Ensure cable has no splices or exposed conductors. (2) Inspect reinforcement sleeve for cut and cracked surfaces; sleeve construction should be of non-conducting material. (3) Inspect pump power cable stuffing tube for watertight seal to pump casing. (4) Inspect attachment plug for loose,



broken, and missing parts. (5) Inspect plug insulation for cracks, chips, and overheating. Although the above steps are not all inclusive to the entire MRC they are the ones that seem to be over looked.

Submersible pumps are designed to aid the ship in its de-watering capability during a flooding casualty thus enhancing survivability. If your submersible pumps look like one of the ones featured or do not meet the requirements of the MRC, then the safety and lives of you and your shipmates are in danger. Remember to check those submersible pumps!



He Was Happy To See The Eyewash Station

HMCS(SS/FMF) Darnell

It was just an ordinary day at sea on the Ohio class submarine. The 34 year old leading petty officer of navigation division (ET1) was in the machinery room preparing to take after-charge gravities following a normal battery charge. This was a task he had performed countless times over his naval career. In fact, he may have had more experience at this task than anyone else on the crew.

As ET1 prepared to perform the procedure, he reached overhead into a locker that contained the equipment he needed. He pulled the tray toward the open locker door. As he pulled, the electrolyte height stick got caught on the edge of the locker. ET1 continued to manipulate the tray free. When he worked the electrolyte height stick free of the obstruction, several drops of battery acid flew from the end of the stick. You've probably already guessed where those drops of acid landed. Just like a tornado always finds a trailer park, the acid found ET1's left eye.

But this story has a happy ending. You see the ship had an eyewash station located less than ten feet from where this incident occurred. And, fortunately for this Sailor, the eyewash station was in good condition. It delivered fresh

water continuously, for 20 minutes without flooding the space. It was not obstructed by tools, equipment, or boxes or used as an extra stowage bin. When the ET1 needed it, it was easy to get to, and it worked the way it was designed to work.

Can you say the same for your eyewash station? Is your eyewash station kept unobstructed? Is the PMS being completed on it? Will it flush both eyes simultaneously for at least 15 minutes without overflowing onto the deck? If not, what are you doing to fix it? If you were in the ET1's shoes, but had to rely on your ship's eyewash station to save your vision, how would the story end?

Oh! Here's the rest of the ET1's story. As a result of this mishap, the ship has taken steps to help prevent this type of mishap from occurring again. All battery charging electricians received training on the hazards associated with battery electrolyte. They were instructed how to properly clean and stow the electrolyte handling gear. And, a sign has been posted at the locker instructing the operator to use caution when removing electrolyte-handling equipment.

Submarine Deck Shoes (Topsiders)

FTCM(SS) Clements

An often-heard statement topside is, "Oops! I slipped!" Are your topside watch standers and maneuvering watch personnel wearing the correct submarine deck shoes? The COMSUBLANT/COMSUBPACINST 5400.39, 5400.38 SSN/SSBN SSORM (article 4329) requires the use of submarine deck shoes by topside personnel. An exception is topside weapons handling personnel who are required to

use steel toe shoes. As referenced in the AELs, (2-330075129; 2-330075130) the only authorized submarine deck shoe is the Sperry topsider (style MP601, only available from Sperry Topsider). The AEL gives stock numbers for all sizes available in the supply system. Advice code "2B" must be indicated on the requisition to prohibit substitution.



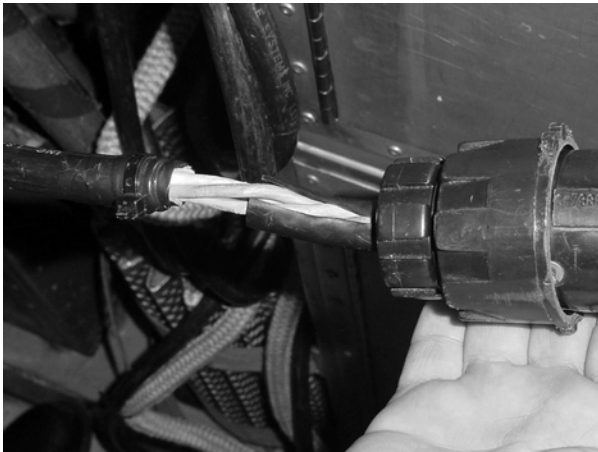
The Chickenhead Award

ETC(SS) Houck

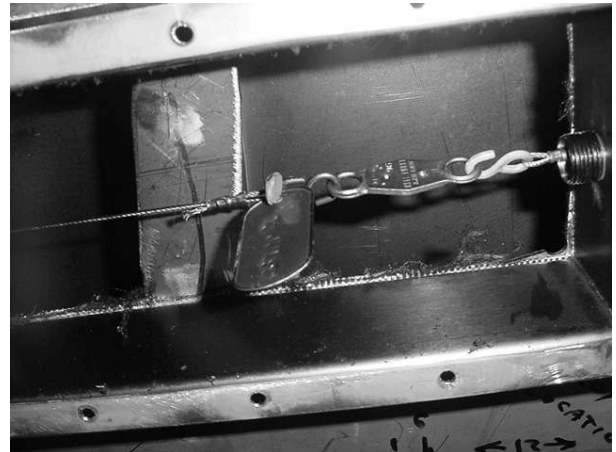


The Chickenhead Award is dedicated to those unexplained and sometimes even bizarre items we have seen during our travels. If you would like to submit photos for Chickenhead Award consideration, contact me at (757) 444-3520 Ext. 7098 (DSN 564), or e-mail at chouck@safetycenter.navy.mil. We will not publish 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.

We had a hard time deciding which one of the items pictured below should be this issue's chickenhead award winner. So, we decided to have co-winners for this issue.



Electrical safety checked sub pump cable?



Where's the scissors assembly?

Welcome Aboard and Hasta La Vista

Welcome aboard to MMC(SS) Jeff Shull and HMCS(SS/SW) Rich Flannery. Chief Shull reported to the submarine safety programs section as one of our safety analysts. His previous duty stations include: USS Hampton (SSN-767); Recruit Training Command Great Lakes; USS New York City (SSN-696); USS Haddock (SSN-621); Naval Training Center Orlando; and USS Narwhal (SSN-671). You can reach Chief Shull at (757) 444-3520 Ext. 7091 (DSN prefix 564), or e-mail at jshull@safetycenter.navy.mil.

Senior Chief Flannery reported to the submarine safety programs section as one of our

safety analysts. His previous duty stations include: USS Jacksonville (SSN 699); Branch Medical Clinic, Norfolk Naval Shipyard; USS Atlanta (SSN 712); 2nd FSSG in Camp Lejeune, NC. You can reach Senior Chief Flannery at (757)-444-3520 Ext. 7097 (DSN 564), or e-mail at rflannery@safetycenter.navy.mil.

We bid a fond hasta la vista to MMC(SS) Mark Gallenstein after a little more than three years serving as a submarine safety analyst. He reports to the USS Albany as their new TM LCPO. We extend our best wishes to Chief Gallenstein, his family, and especially the weapons officer of the USS Albany.

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 COMNAVSAFECEN Afloat Safety Advisories for Surface Ships and Submarines
3-02	241315Z JAN 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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