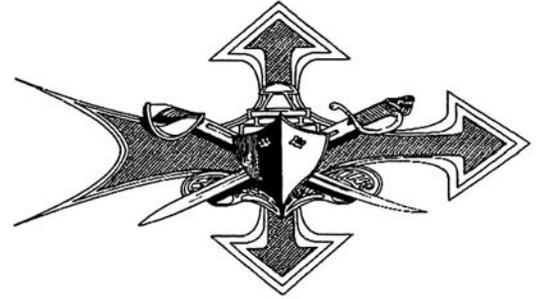


SHIPS' SAFETY BULLETIN

Prepared by Naval Safety Center
RADM Arthur J. Johnson, Commander
Steve Scudder, Editor
(757) 444-3520 ext. 7115 DSN 564
E-mail: safe-afloat@navy.mil
Homepage:
<http://www.safetycenter.navy.mil>
ETC(SW) Mobbs, Jason



OCTOBER-DECEMBER 2010

Suggested routing should include CO, XO, department heads, division officers,
CMC, CPO mess, petty officers' lounge, work-center supervisors, and crew's mess.
Blanks provided for initials following review:

==	==	==	==	==	==
==	==	==	==	==	==
==	==	==	==	==	==

Attention Damage Control Leadership!

By LT Christine Davy
Naval Safety Center

While attempting to come up with a topic for the upcoming SSB article, I realized that over the years, the DC organization here at the Naval Safety Center has been repeating the same topics in these issues. That tells me something, which I can also attest to from personal experience while being here: The same issues arise because there is a problem getting the hard-to-fix items repaired and maintained. I think the biggest obstacle is getting the cross-divisional leadership to talk and get the repairs/corrections completed. So, to that end, I will attempt to describe some of the material discrepancies that my counterpart and I here at the Naval Safety Center, encounter in almost every safety survey. This issue will address explosion-proof lighting.

- Explosion-proof lighting:
These light fixtures are found in hazmat storerooms, paint/mixing rooms, magazines, and other areas where explosive gases can cause catastrophe if PMS is not adhered to. The common discrepancies found are:

- Incorrect bulb installed
- Tamper seal not installed
- Loose globes (meaning the globes can be spun by hand or moved vertically)
- Bulbs burned out and ship doesn't have correct bulbs on hand to replace.

A majority of the problems can be resolved by recognizing ownership of the lighting fixtures. In most cases when we find a lot of problems with this lighting, it's because the personnel who own the space have attempted to restore the lighting without the knowledge of the required PMS performed by shipboard electricians.

Why, you ask, is this a damage control issue if it deals with lighting? I

am asked this in nearly every safety survey when I explain to the DC organization that I, as a damage control analyst, need to see their explosion-proof lighting. The answer is simple... if these lighting fixtures fail and there is a build-up of explosive fumes in the space, it will quickly become a damage control issue!

Electricians need to ensure they are carrying MIP 3301/008 if the ship has explosion-proof lighting. Additionally, an accurate EGL will ensure they are conducting the required maintenance on all applicable lighting fixtures.

There are two required PMS checks from the MIP to be done on these lights. The S-1, visually inspect explosion-proof lighting fixtures, and the 18M-1 to inspect/repair explosion-proof lighting fixtures. Keep in mind, FR-4/10 for the 18M-1 requires use of a multi-meter, so an electrical-based rating is required to complete the PMS properly.

I challenge all khaki whose divisional personnel are tasked with performing this maintenance, to review the applicable PMS thoroughly and conduct regular spot checks. You might be surprised at what you find. A lack of attention put into conducting the maintenance inspections correctly. Your intervention and training will result in correctly performed PMS and render the applicable space lighting safe. The fleet, as a whole, needs to take a round-turn on these lighting fixtures.

Contact NavSafeCen:
(757) 444-3520 ext. 7199 (DSN) 564
E-mail: christine.davy@navy.mil or

Who is Watching Your Contractors?

*By ETC(SW) Jason Mobbs
Naval Safety Center*

A normal day while in port could bring a visit from 1 to 50 contractors depending on your place in the deployment rotation and the scope of work being done. We all know that contractors are supposed to have an escort wherever they go while onboard but how often does that happen? Are we dropping off and picking up contractors on the quarter deck? How often is the person that we send with the contractors knowledgeable enough to recognize when things just aren't right?

On a recent survey, a hatch on the 02 level port side of a destroyer was open. Now you might not think that is a big deal or an unusual occurrence unless of course you realize that the hatch is for a trunk and leads directly to the 4th deck. There wasn't any type of barrier to close the area off. There were not any nets in the trunk (Ref. C0102a(9) of OpNavInst 5100.19E, GSO 612(E), NAVSEADWG 804-5184163, MIP 6122/001). Now, there were contractors in the area and they are probably the ones that left the hatch open; but, who should have found the problem? My guess is the Sailor who was supposed to be escorting the contractors should have. We are finding this more and more often in the fleet.

One of the issues is that like you I would not send my go-to Sailor or the Sailor I need on a priority project. That would be the Sailor that probably has the knowledge and experience to not let this happen. More than likely we will send

the Sailor that just checked in or the one that isn't qualified yet. In the days of the under-manned fleet, I am not saying you are wrong to do this. I am saying that we need to take a round turn and ensure that if we have to stick a Sailor with contractors then the Sailor knows what is expected. Ensure that they know that they are there and following these contractors because some of them may not be aware of our policies and procedures, and even worse, some may know them and not care. Ensure they are aware that they are there to protect our shipmates and our ship. If they see something that doesn't look right, then they need to halt the work and get someone. Safety like damage control is everyone's job. I think with just a little effort we can vastly improve this area and continue to stay safe.

Contact NavSafeCen:
(757) 444-3520 ext. 7029 (DSN) 564
E-mail: jason.mobbs1@navy.mil or

When Dealing With Rotating Machinery; Don't Let Your Guards Get Your Sailors Down!

*By CWO4 Danny L Royse,
Naval Safety Center*

Safety surveyors have found that approximately 83 percent of all pumps and auxiliary machinery evaluated had coupling guards that were improperly installed or lacking standardization for color coding of rotating machinery/equipment guards. All rotating machinery/equipment guards shall be painted RED. Guidance

for proper installation and color scheme for coupling guards is provided in the GSO 070(H) and paras C0104a(4) and C1302a(16) of OpNavInst 5100.19E.

Two deficiencies noted during surveys that require immediate attention are; Sailors installing rotating guards with 50 percent or less of the required securing hardware. Worse, installing improperly sized hardware that falls out over time. Improperly installed guards could lead to inadvertent movement of the protective guard if accidentally contacted during maintenance or watch standing, allowing access to rotating components. These guards are installed to protect you from getting physically caught in rotating shafts, belts, couplings or pulleys. Many pieces of auxiliary equipment are designed to start automatically or remotely, which means this equipment could start without warning. If a guard is installed improperly and you or your clothing get caught in the rotating components, death or serious injury may result. After a maintenance action or repair, take the extra time to install the coupling guard properly and return your equipment to a safe and ready position.

Para C0104 a(4) of OpNavInst 5100.19E specifically designates color code schemes based on potential severity of operations and red is the only designated color scheme for, "Guards or barriers enclosing rotating machinery, shafts, or moving parts which could cause death or severe injury, if removed." We see a multitude of improper colors and patterns that are based on the fluids being moved, the bulk paint of the day, and of various

stripe patterns. To reiterate, red is the only authorized color.



Coupling guard not installed and labeled improperly.

Pay close attention to all rotating machinery guards. Belt guards, chain guards and coupling guards all fall into this category. Don't forget remote locations to, like the laundry and galley. Remember, safety doesn't happen by accident.

NavSafeCen Points of Contact:
(757) 444-3520 ext. 3520 (DSN 564)
E-mail: Safe-afloat@navy.mil

Explosion-proof Flashlights

*By EMCS(SW) Andrew Fanning,
Naval Safety Center*

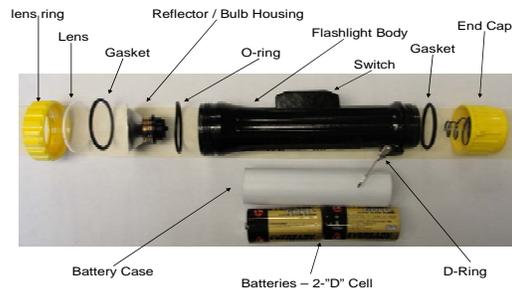
The Naval Safety Center has received several questions regarding explosion proof-flashlights. Most of the questions result from Sailors being hit during PMS spot-checks for using the wrong flashlight, or using flashlights that are missing parts. It is important to ensure your flashlights are assembled properly before working in hazardous atmospheres such as fuel tanks, marine sanitation device tanks,

sewage collection and transfer piping, and magazines.

EXPLOSION PROOF FLASHLIGHT



NSN 6230-00-299-3035
FIRE RETARDANT, WATER PROOF, 3 POSITION SWITCH



According to the Federal Item Identification guide, this flashlight is rated for use in class I, group C,D; class II, group E,F,G; and class III atmospheres. Class I locations are those in which flammable gases or vapors may be present in the air in quantities sufficient to produce explosive or ignitable mixtures from group C (atmospheres containing ethyl-ether vapor, ethylene, or cyclopropane), or group D (atmospheres containing gasoline, hexane, naphtha, benzene, butane, propane, alcohol, acetone lacquer solvent vapors, or natural gas). Class II locations are those which are hazardous because of the presence of combustible dust from group E (atmospheres containing metal dust, including aluminum, magnesium, and

their commercial alloys), group F (atmospheres containing carbon, black, coal, or coke dust), or group G (atmospheres containing flour, starch, or grain dust). Class III locations are those which are hazardous because of the presence of easily ignitable fibers; but in which such fibers are not likely to be in suspension in air in quantities sufficient to produce ignitable mixtures.

NavSafeCen Points of Contact:
(757) 444-3520 ext. 7834 (DSN 564)
E-mail: Safe-Code31@navy.mil

Are Your Self-Contained Electric and Steam Jacketed Kettles Equipped with the Correct Relief Valves and are they Configured Correctly?

*By CWO4 Don Tripp,
Naval Safety Center*

Safety surveyors have found 59% of self-contained electric and steam-jacketed kettles equipped with relief valves set to the incorrect pressures and not tagged according to NSTM 651-2.31 and PMS MIP 6520. In addition to these common deficiencies, they have found many cases of relief valves not equipped with exit piping that extends to just within the coaming (para C1905g(6) of OpNavInst 5100.19E) and are missing the required pull chains to allow activation from a safe distance. Additionally, surveyors discovered many kettles with missing hydrostatic test tags or are not hydrostatically tested according to PMS.

Section 651(c) of General Specifications for Overhaul of Surface Ships (GSO) states, "Safety relief valves shall be pull chain actuated from a safe position." Para C1905g(4) of OpNavInst 5100.19E also provides guidance that states, "Ensure safety relief valve levers are equipped with an 18-inch chain to allow activation from a safe distance. Chains must be mounted in such a way that the need to reach over or between/behind hot kettles is eliminated."

Use individual equipment technical manuals and shipboard PMS to determine the correct setting of the relief valves and to ensure the relief valve is tagged properly. Recommend that when undergoing galley modernization, ship's force become fully engaged with the process to ensure that all of the above requirements are met before job completion.

NavSafeCen Points of Contact:
(757) 444-3520 ext. 7109 (DSN 564)
E-mail: Safe-afloat@navy.mil

Chutes and Ladders

*By LT Hayley Sims
Naval Safety Center*

Ladder wells are essential to every Sailor on a ship since they provide the access from deck to deck. Climbing and descending ladder are everyday occurrences and something we should all be able to do safely. Recently, many Sailors have been

injured as a result of improperly using ladders. Each of these mishaps has resulted in painful injuries including fractured ankles, head lacerations, broken arms, and back pain. All of these incidents could have been prevented if each Sailor had used their basic safety knowledge found in para C0102 of OPNAVINST 5100.19E. Below are some basic safety tips for using ladders:

- Do not walk around a ladder with missing safety chains.
- Be observant and look up and down before using a ladder.
- Always move up or down a ladder with one hand on the railing.
- Never slide down a ladder.
- Do not carry loads up or down ladders that obstruct your movement or sight.
- Do not run up or down ladders.
- Ensure that low overheads above inclined ladders and ladder grab bars are padded or protected to prevent head injury if struck.

NavSafeCen Points of Contact:
(757) 444-3520 ext. 7834 (DSN 564)
E-mail: Safe-Code34@navy.mil

The Importance of Equipment Grounding

By *EMCS(SW) Andrew Fanning,*
Naval Safety Center

During surveys, we have noticed a general lack of knowledge on proper grounding for both electric and electronic equipment. Grounding is an important safety measure, which intentionally connects the non-current-carrying conductive parts of electrical equipment, such as the enclosure, frame, or chassis, to ground (the ship's hull or grounding plate) through a low-resistance path. If an energized electrical conductor contacts the enclosure due to a fault or mechanical damage, the ground provides the lowest impedance path of electrical current to ground, and shunting the current away from contact with a Sailor. All shipboard equipment operating from an external electrical power source of 30 volts or more, including commercial-off-the-shelf (COTS) equipment, shall provide shock hazard protection in accordance with the MIL-STD-1310.

On metallic hull ships, the metal hull, when in contact with the water, shall be designated as ground potential. On nonmetallic hull ships, ground plate(s), shall be installed to establish the same ground potential. All electrical/electronic equipment used aboard ship shall be provided with:

- a. A hard-wired power cord.

- b. The mounting hardware to provide class B or C bonding to ground.
- c. Use of a non-conducting enclosure/case.
- d. Or a combination of the above.

An electrical bond is a conductive (electrical current) path between two metallic surfaces. Bonds are classified by the type of connection between the equipment and ship's hull as follows:

- Class A - Metallic surfaces are bonded by welding or brazing.
- Class B - Metallic surfaces are bonded by bolting or clamping.
- Class C - Metallic surfaces are bonded by bridging them with a metallic (conductive) bond strap.

All class B and C bonding is dependent on establishing and maintaining low resistance, low RF impedance, metal-to-metal contact junction(s) between the items to be bonded by bolting or clamping. It is important that any paint, grease, rust, corrosion or other foreign material are removed from the metal surfaces before the bond is formed. All metallic mating surfaces that are bolted together to form a class B or class C bond shall be sealed and preserved to prevent contamination and deterioration from environmental factors, such as; seawater, salt air, stack gas, etc., and to maintain bond effectiveness between scheduled maintenance availabilities.

All bond straps and grounding wires bonded to the ship's ground shall be directly routed and as short as practical. Equipment grounding shall not be established through the cases of other

equipment, and must have their own class B or C bond to ground. Correct equipment grounding procedures are defined in MIL-STD-1310.

Here are some tips to help reduce the risk of possible shock hazards associated with electrical/electronic equipment used board your ship:

- Make sure all of your ship is performing MRC A-5 on MIP 3000/001 on all electrical and electronic equipment mounted on non-structural bulkheads.
- Verify all equipment utilizing resilient (shock) mounts have their grounding/bonding straps inspected in accordance with MRC 24M-1 on MIP 3000/001.
- Require that all personal electric and electronic items brought aboard ship are approved by the electrical safety officer and have been tested according to NSTM 300, *Electric Plant-General*.
- Ensure all shipboard portable and mobile electric equipment has a safety tag and has been checked according to MIP 3000/001.

NavSafeCen Points of Contact:
 (757) 444-3520 ext. 7834 (DSN 564)
 E-mail: Safe-Code31@navy.mil

FY 2010 Safety Campaign—A Huge Success

- Decrease in alcohol-related mishaps.
- Recreation/Off-duty: The Navy had the best in the last 10 years, a 63% decrease from 2009 and a 57% decrease from the 5-year average.

Fire, Fire, Fire

By DCC(SW/AW) John Ralston
Naval Safety Center

When these ear piercing words are heard on the ship's IMC, they drive fear into the hearts of Sailors. Too frequently, you hear, "Fire! Fire! Fire!" during a yard period or a restricted availability.

No ship wants such IMC announcements to become commonplace to the daily routine, but without an aggressive fire prevention program "Fire! Fire! Fire!" could become all too familiar. A "hidden" fire in an uninhabited space, or a fire not quickly brought under control, can be devastating and result in serious injuries and cost millions of dollars.

It is paramount that, aboard ships undergoing overhaul or repair involving hot work, the crew adheres to guidelines outlined in Section 1 of NSTM 074V1, *Welding and Allied Processes*. Applying the NSTM-indicated measures will significantly decrease the risk of a shipboard fire.

Section 074-10.8.1.1 of NSTM 074V1, "Hot Work by Private Shipyards," spells out references to follow during a ship's overhaul. While acknowledging the NSTM provisions cannot be contractually imposed on a commercial activity performing the overhaul, the NSTM places overall responsibility for shipboard safety on the commanding officer, who is bound by regulation to make sure his crew carries out necessary and adequate safety precautions.

All hands' involvement in practicing fire safety goes a long way in helping the ship's fire marshal with controlling hot work. Every crewmember bears the responsibility of immediately reporting any abnormal hot work situation: When you see a potential fire hazard in a hot work space, stop the work if possible and immediately summon the fire marshal or his representative.

Remember, prevention goes a long way in avoiding a shipboard conflagration, and it provides insurance for safety for you and your shipmates.

NavSafeCen Points of Contact:
(757) 444-3520 ext. 7119 (DSN 564)
E-mail: Safe-Code31@navy.mil

General Safety Note Corner:



Safety features such as non-skid are not meant to be "pretty." They are meant to be effective. The operator of this JLG was trying to go up the vehicle ramp that had been deck washed and slid backwards down the ramp. Don't be the prettiest ship, be the safest ship!