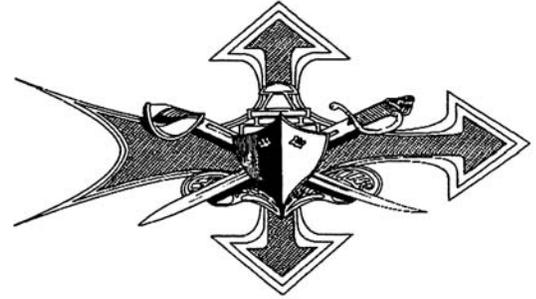


SHIPS' SAFETY BULLETIN

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JANUARY - MARCH 2008

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:

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EOSS, EOP, EOCC, and the Big Picture!

*By GSCS(SW) Ben Clarke
Naval Safety Center*

Not staying current with, and following, Engineering Operating Procedures (EOP) can lead to serious injury or death to engineers and can result in costly repairs to major equipment. The Naval Safety Center is called upon to assist a safety investigation board (SIB) looking into costly and often tragic casualties. Recently, repairs and overhaul to a major piece of equipment cost over a million dollars because personnel failed to follow established EOP. The investigation discovered that NAVSEA tag-out procedures as established in the Tag-Out Users Manual (TUM) were not followed properly. Proper tag out of the system was required by the EOP; however, violations of this procedure cascaded from supervisor to operator and led to the costly damage.

Commander, Naval Sea Systems Command developed the Engineering Operation Sequence System, or EOSS, to help engineering personnel familiarize themselves with their equipment and its operation. When gear functions normally, operators can confidently use EOP as an EOSS sub-system.

Engineering Operating Casualty Control or EOCC, an EOSS sub-system, standardizes equipment-malfunction procedures. However, many mishap lessons learned reveal supervisors frequently don't train Sailors how to use EOSS and its subsystems.

EOSS is a system of checks and balances even for "old salts." The system is aligned and checked with EOSS regardless of the operator's experience level. Although experienced technicians familiar with their gear may think they don't need EOSS, its use is not an option, **It's required!**

Meanwhile, you don't need to memorize or carry around EOP all the time; but, you should refer to it when

needed and to make sure you follow the required engineering operating procedures. System guidelines require operators to memorize all controlling and immediate actions relating to EOCC.

Watchstanders, who discover an EOSS procedure that doesn't work or has incorrect parameters, should contact their watch supervisor and report it up the chain of command. The command may need to submit an EOSS feedback report to change the procedure. If the problem is safety related, send an urgent EOSS feedback report by message.

A ship's commanding officer can authorize an immediate pen-and-ink change to EOSS in two situations: If the problem is safety-related; or, if a temporary procedure is needed because another piece of equipment is out of service and workers can't follow procedures. In either case, a feedback-report-number and the CO's initials must be included beside the change.

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How's Your Electrical Gear Classified?

*By EMC(SW) James Simpson,
Naval Safety Center*

The Navy has classifications for everything, even miscellaneous electrical equipment. All types of equipment with an attached power cord can be classified in one of three categories. Equipment is classified as mobile, portable, or personal.

Mobile equipment is a unit that is not hard-wired, can be moved, but normally is stationary during use. This category includes items that are fixed in place to prevent movement. Examples are adding machines, copiers, typewriters, toasters, computers, and televisions.

Portable equipment is a unit that normally is hand held while in use or is routinely moved before use. Examples are drills, vacuums, sanders, drop lights, and box fans.

Personal equipment is a unit that is brought onboard ship for personal use when adequate government equipment is not available. Examples are electric razors, portable DVD players, game systems, and CD players.

Now that we have determined the types of electrical equipment used onboard ship, let's discuss the correct PMS periodicities for each type. MIP 3000/001 provides coverage for all types of miscellaneous electrical equipment with the exception of personal equipment.

MRC R-5 applies to **mobile** electrical equipment that is equipped with a three- or four-prong plug.

MRC R-6 applies to **mobile** electrical equipment equipped with a two-prong plug. Mobile equipment is required to have PMS performed upon introduction to the ship.

MRC Q-1 applies to **portable** electrical equipment with a two-prong plug, is permanently marked "double insulated," or is tagged or marked by the electrical safety officer as meeting the

approval criteria in Section 2 of NSTM 300 Rev. 7.

MRC Q-2 applies to **portable** electrical equipment with a three-prong plug.

Personal electrical equipment inspection criteria are in Section 2 of NSTM 300 Rev. 7.

Use MIP 3000; Chapters B7 and C9 of OPNAVINST 5100.19E, Navy Safety and Occupational Health (SOH) Program Manual for Forces Afloat; and NSTM 300 Rev. 7, *Electric Plant-General*, to establish and administer the program on the deck plate level. To ensure a successful program, classify electrical equipment properly and use up-to-date equipment guide lists to ensure safety checks are accomplished at the prescribed periodicity. Inspect all mobile, portable, and personal electrical equipment in your spaces to ensure it's being maintained properly. If any question arises with regard to installation, classification or maintenance of this type of electrical equipment, contact your electrical division.

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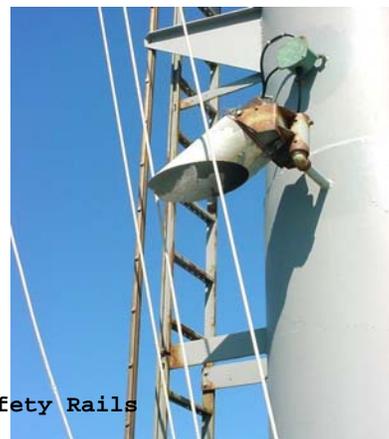
Will You Fall From A Failed Safety Rail?

By LT Michael Johnson
Naval Safety Center

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ver the past three years we have found that 72% of the ships surveyed have had deficiencies related

Corroded Safety Rails



to their vertical ladders and climber safety rails. The majority of these deficiencies are due to neglected planned maintenance or improperly performed planned maintenance.

The following PMS is applicable to vertical ladders and climber safety rails and must be completed by the responsible division to ensure the safe condition of these devices: inspect ladder-climber-safety rail (MIP 6231/002), clean and inspect movable life-rails (MIP 6121/003), and inspect vertical and inclined ladders (MIP 6641/003). The accompanying photos show unsafe ladders where PMS was not done. On this ladder, welds were corroded on both sides of more than one stanchion. We usually find that when ladders and rails are in poor condition, no division has been assigned PMS responsibility; the assigned division was not aware they were responsible for the maintenance; or the division assumed that another division was responsible for the PMS.



Before going aloft, always check the aloft ladders and climber safety-rails for proper material condition. If they do not look safe, ask questions and get them fixed!

If a climber safety rail is damaged, refer to NAVSHIPS Drawing 804-4563125 for required safety rail construction and components. Climber safety rails should be free of corrosion and surface rust. A rail which has any of these conditions does not allow for smooth movement of the climber safety devices and may impede the functionality of the safety sleeves.

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Missing a Ships' Safety Bulletin? (Oct. - Dec. 07)

We did not publish an issue of the Ships' Safety Bulletin for October - December 2007.

The Sting Of Snapback

*By BMCS(SW) Charles Gum
Naval Safety Center*

A

recent mishap involving line-handling procedures highlighted the need to address synthetic snapback.

Existing precautions and procedures for line handlers protect Sailors from death or injury. OPNAVINST 3500.39B and OPNAVINST 5100.19E require a safety brief before any line-handling evolution. Before you conduct any line-handling activities, address the following:

- Use only fixtures that have been weight-tested and have proper documentation.
- Do not overload any fitting.
- Observe all standard safety precautions for handling lines under tension.
- Do not put strains on kinked lines.
- Do not drag lines on decks. Imbedded grit and surface abrasion causes unnecessary wear on lines.
- Avoid surging lines unnecessarily on running capstans or winches as much as possible. Surging abrades and burns fibers on lines.
- Do not put sudden strain on lines. Instead load and surge smoothly to avoid shock loads.
- Do not let lines become fouled in machinery gears or other sharp metal equipment.
- The recommended safe distance when handling lines is six feet from chocks, bitts, cleats, capstans or gypsy heads.
- Do not stand in the bight of a line for any reason.

- Personnel tending lines on bitts or capstans shall stand 45 degrees on either side of the line of pull to prevent injury from snapback action.
- Synthetic lines may fail without warning which could be catastrophic. To prevent injury or death from snapback action, personnel shall not stand in the direct line of pull under any load.
- Exercise the utmost care when easing out or checking synthetic lines.
- Because of their rapid recovery, low coefficient of friction, and high extensibility under heavy loads, these lines may suddenly snap back resulting in death or injury to line handlers. Make every safety brief specific for the evolution at hand. Several factors must be considered when conducting each brief since variables differ for each evolution. Employ ORM five steps for all evolutions no matter how routine they seem. The steps you take could save a shipmate their life or limb.

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Deck Safety Surveys

*By BMCS(SW) Charles Gum
 Naval Safety Center*

The deck safety survey starts with an in-brief for command representatives. The usual schedule then calls for a visit to the bosun's locker and deck office to review departmental bills and the deck safety survey checklist, (available on the Naval Safety Center's website). Next a walk-

through topside to inspect life-lines, anchoring and mooring systems, Baxter bolts and deck screws, deck lighting, small boats and their associated gear, boat davits, RAS/FAS stations, and the non-skid condition. The list also includes looking at deck life-saving equipment: life jackets (MK-1, inherently buoyant, and abandon ship), rafts and buoys, SAR gear, and distress-marker lights. The review also includes a look at the ship's safety harness program. The deck safety surveyor will walk through all other deck spaces; again, this is not a zone inspection but serves to identify and discuss material discrepancies that could cause mishaps or result in equipment loss. The following is a list of discrepancies commonly found during the safety surveys:

Problem: *Mk-1, abandon ship, and inherently buoyant life preservers are not being maintained as prescribed by PMS. Discrepancies include: expired batteries in DMLs, retaining line on DMLs too short and incorrectly terminated, sea-dye markers do not meet PMS guidelines, wrong size or recalled CO₂ cylinders installed in inflation assemblies, and wrong type shear wire installed in inflation assemblies.*

Reference: PMS and NSTM 077, Personnel Protection Equipment.

Recommendation: Conduct a ship-wide self-assessment to determine the extent of this discrepancy. Train crew members who perform PMS and make sure they adhere to PMS standards. Supervise PMS completion and conduct random spot-checks they follow the MRC.

Problem: *Shackles used with the RHIB sling are not according to PMS and NSTM 583. Stainless steel shackles are*

installed and PMS and NSTM 583 requires galvanized, screw pin type utilized and PMS and NSTM 583 requires anchor safety shackles.

Reference: NSTM 583 Vol. 2, Handling and Stowing Boats and Small Craft; MIP 5833/309 M-4R

Recommendation: Conduct a ship-wide self-assessment to determine the extent of this discrepancy. Train crew members who perform PMS to make sure they adhere to PMS standards. Supervise PMS completion and conduct random spot-checks to ensure PMS is performed according to the MRC.

Problem: *Life-rafts improperly stowed in cradles (hydro-static release devices not installed according to PMS). Discrepancies include: Posted launching instructions are incorrect for the type of release device installed; lashing on release devices is not according to PMS, release device is installed backward (button facing outboard).*

Reference: NSTM 583 Vol. 1, *Boats and Small Craft*; PMS directives and MRCs.

Recommendation: Review PMS procedures and then inspect ship life rafts to determine the extent of this discrepancy, conduct training, and perform spot-checks to ensure PMS compliance is met.

Problem: *The pilot's ladder suspension lines not terminated according to NAVSHIPS DWG 804-5000900 and the pilot's ladder not rigged according to NAVSHIPS DWG 804-5000900.*

Reference: NAVSHIPS Drawing 804-5000900.

Recommendation: Obtain and review the drawing and compare it to your ship's current rigging configuration.

Correct discrepancies and conduct training as required.

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Don't Injure The Cook!

*By MMCM (SW) Robert Borowski,
Naval Safety Center*

When it comes to protecting the folks that feed you, a good place to start is with your galley kettles. All of your galley kettle safety requirements can be found in the GSO 651c and NSTM 651, *Commissary Equipment*. Over the course of the last year I have compiled a list of common kettle discrepancies for which you should be on the look out.

Your kettle relief valves and your kettle jackets need to have current hydrostatic test tags visible at the relief valve and kettle respectively. The discharge piping from your kettle relief needs to be the correct length so it is inside the protective coaming around the base of the kettles. The relief valve safety release chains need to be connected and in working order. If your kettles are steam, you need to have a supply gauge and the pressure to the kettles cannot be greater than 45 psi. The steam piping to the kettles needs to be lagged or guarded to prevent operators from steam burns. Be aware that if you go the "guarded" route, you need to eliminate all the sharp edges that can easily cut someone. If your kettles are electric, make sure that all of the electrical panel covers are secured with

all fasteners and there are no gaps that splashing or spraying water can enter. Keep those cooks safe and they will reward you with great cuisine

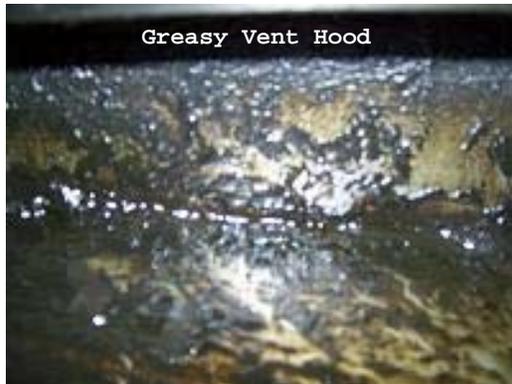
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Is There A Fire In Your Future?

DCC(SW) Joseph Barrois
Naval Safety Center



Is your galley's Gaylord wash system operational? Is PMS being conducted daily when operating? Have you verified that the wash system is aligned to all vent hoods? If you can answer no to any one of these



questions, a detailed inspection of your Gaylord vent hoods is warranted.

Take a good look at you vent hoods. Don't be afraid to open them up and look inside. The most common hood for grease build up is above the deep fat fryer, but don't limit yourself to just looking about the fryer.

If during the course of your detailed inspection you find any signs of grease build up, you will want to conduct PMS on the system. PMS should be conducted according to MRC 5121/004 R-1D for ships with a manual wash system and MRC 5121/004 R-5D for ships with automatic cleaning systems. Both MRCs instruct the maintenance person to open inspection doors and inspect interior of hood and drain for residual grease or dirt.

“Presence of an area that as not been subsequently cleaned indicates one of the spray nozzles is clogged. To correct this discrepancy, remove nozzle cap and clean holes with small wire; reinstall nozzle cap.” MRC 5121/004 R-1D, Note 5





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Flammable and Combustible Locker

*By HMCS(SW/AW) Vincent Walker
Naval Safety Center*

Is your ready-use flammable locker properly maintained onboard your ship? Assess your locker from the picture depicted below?

If your locker looks like this, your locker requires special attention.



References

NSTM 670, Stowage, Handling, and Disposal of Hazardous General Use Consumables, OPNAVINST 5100.19E, paragraph B0302, C2304, PMS MIP 6600/003

MRC Q-36R will provide you the necessary guidance to properly maintain your lockers. Here are some of common discrepancies we find during safety surveys:

- *Locker is not NAVSEA approved; NSTM 670-4.1 provides a list of approved models*
- *Cabinets not welded to the deck per MIL-S-901.*
- *Missing self-locking mechanism as safety precaution to prevent fires*
- *No inventory sheets, missing hardcopy material safety data sheets*
- *More than seven-day supply of stored inside.*
- *A #18 portable PKP dry extinguisher bottle was not stored near the cabinet.*

I suggest work center supervisors get out into your spaces and assess your lockers for compliance. The ship's assigned hazardous material coordinator shall maintain a list of all lockers along with their locations within the ship. The manager must spot areas throughout the ship at least quarterly to control hazardous materials effectively onboard your ship.

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