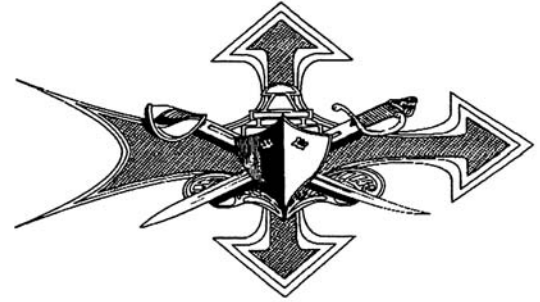


SHIPS' SAFETY BULLETIN

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APRIL - JUNE 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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Post Safety Survey Reporting Requirements Correction

By CDR Eric Covington
Naval Safety Center

After the completion of the safety survey, the command is responsible for reporting the status of their significant discrepancies to their ISIC within 30 days. Paragraph A0305 (b) of OPNAVINST 5100.19E, Navy Safety and Occupational Health Program Manual for Forces Afloat, states, "The survey report shall be provided to the ship, including a relative standing for safety performance among the ship class. Within 30 days of the completion of the survey, commanding officers shall provide their ISIC, in writing, the status of the **significant** discrepancies identified during the survey and indicate those that have been corrected, those on the CSMP (including job sequence number (JSN)), and those beyond capability of the command to correct

without outside assistance." When sending the post safety-survey report to the ISIC, ensure you include COMNAVSAFECEN in the INFO block. We will correct paragraphs A0202 (e)(5) and A0203 (b)(9) in the next revision to the instruction.

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Poor Life Raft PMS Has Repeat Offenders

By BMCS(SW) Charles Gum
Naval Safety Center

A day at sea could start out really bad if you are called to the bridge because your ship just lost a life raft. A few of the questions that will be asked by the chain of command could be: Why was the raft lost? Could it have been prevented? Who last performed maintenance on them; and how can this be prevented in the future?

There are numerous causes that can be attributed to the loss; but, most of them will point to improper or neglected PMS. The MRC contains step-by-step procedures on how to secure a life raft in its cradle.

During recent safety surveys, I regularly found the following discrepancies with life raft PMS:

- Sea painters were not terminated to the ship's structure according to PMS.
- Rafts were not stowed in racks with the seam of the upper and lower halves positioned approximately parallel to the base line of the ship. In the correct position, the drain holes will be at the lowest point of the container and thus allow water to drain from the container and not accumulate.
- Hydrostatic-release devices installed backward or upside down.
- Securing harnesses with cracked rubber coatings; and CRES material not utilized to secure the harnesses.
- Incorrect type of lashing between hydrostatic-release devices and securing harnesses.
- Lashing on release devices not terminated according to PMS.

I could list more problems; but, I think you get the picture. Remember, the life raft will take care of you only if you take care of it. LCPOs and LPOs must know what requirements are contained in the MRC and then get out and inspect their life-saving gear. Remember to expect what you inspect.

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Rotating Machinery Guards - Don't Let Your Guard Down!

By MMCM (SW) Robert Borowski,
Naval Safety Center

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any of you don't know that "red" is the standard for color coding your rotating machinery guards.

Your guidance is in paragraph C0104 of OPNAVINST 5100.19E. The paragraph, "**Safety Color Code and Signs for Marking Physical Hazards,**" states:

a. DANGER. Red is the basic color for the identification of dangerous equipment or situations:

(4) Guards or barriers enclosing rotating machinery, shafts, or moving parts which could cause death or severe injury, if removed.

One of the biggest problems I've encountered is that Sailors try to spray paint the guards in place. Sounds easy, doesn't it? Thirty seconds elapsed time and your guard is now in compliance. What they fail to realize is that they have now, through the magic of over spray, coated a coupling, a shaft, some seals, and whatever else is in close proximity to the guard in the process. The extra work and damage you can cause to your equipment is not worth the quick-fix spray. Take the time it takes to tag out your equipment properly before removing the guard, then take it to a safe place to spray. You just might even find yourself timing this evolution perfectly with some PMS that calls for the removal of the guard anyway.

Pay attention to your rotating machinery guards. Belt guards, chain guards, and coupling guards all fall into this category. Don't forget the remote locations too, e.g., laundry and galley

equipment. Remember, safety doesn't happen by accident.

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How Effective is Your Tag-Out Program?

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

The tag-out program is designed to protect personnel and to prevent damage to equipment and the ship by preventing improper operation when a component, equipment, system or portion of a system is isolated or in an abnormal condition. Bi-weekly or more frequent audits of active tag outs is a highly effective method of ensuring tag outs were performed correctly.

During recent afloat safety surveys, surveyors have noted numerous discrepancies with the ships tag-out programs. Many of these discrepancies were noted on tag outs that have been audited numerous times. Some examples of the most frequent discrepancies are:

*Tags being hung without an authorizing officer's approval signature in block 9 of the TORS (Tag-Out Record Sheet) or in block 6 of danger/caution tags.

- Tags being hung without a first or second person signature in blocks 7 and 8 of the TORS or blocks 5 and 6 of danger/caution tags.
- TORS missing repair activity approval signature in block 10 of the TORS and initials in block 18a/b for tag verification.

- TORS have duplicate tag-out index numbers
- Caution tag outs have an actual tagged position/condition listed in block 16 vice "SAI" (see amplifying instructions).
- Line outs on danger and caution tags. No line outs are authorized.
- TORS and tags have missing or incomplete system/component ID listed in block 15 of TORS and block 2 of danger/caution tags.
- Applicable documentation missing from block 4 of the TORS. Block 4 should include reason for tag, WAF (Work Authorization Form) numbers, and the documentation used to isolate the equipment to include drawing numbers, Ship's Information Book, EOSS/CSOSS diagrams, etc.
- Tag cleared from original line items with no new line item being generated to re-establish barrier isolation criteria.

Additionally, shipboard personnel sometimes isolate a piece of equipment and commence repairs without danger tagging out the gear. This is a violation of the shipboard tag-out program yet personnel continue to place themselves in danger to save time.

An aggressive tag out training program, including initial and periodic training of procedures set forth in the TUM (Tag out Users Manual) along with periodic audits by senior personnel, is the most effective tool in the reduction and prevention of these common discrepancies. Not following proper tag out procedures can place you, a shipmate, equipment, and even your ship in danger.

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Planned Maintenance System (PMS)!

By DCC(SW) Joseph Barrois
Naval Safety Center

Damage control safety surveys throughout the fleet, highlight a single common denominator. The most common problem that we are having is that preventive maintenance is not conducted “in accordance with (IAW) PMS”.

Ship’s force could have avoided approximately 95% of all discrepancies we found just by taking the time to read the PMS card. A few of the items found while on surveys are:

- Steps not followed on PMS card.
- PMS being conducted without PMS card.
- Most current PMS card not being utilized.
- “Notes” and “Warnings” on PMS cards not being read.
- Logs not filled out and saved as directed by PMS card.
- Maintenance not conducted.

We conduct PMS on our equipment to ensure that it will operate correctly when needed. When an emergency happens is not the time to find your P-100 is frozen due to the lack of PMS; or Halon does not light off because the CO₂ actuator weight was low.

Damage control equipment is onboard to save lives and the ship. Not taking the required time to conduct the required PMS in accordance with the MRC and other required technical directives will not only decrease the service life of this equipment, but more

importantly, diminish the reliability that you count on for emergent use.

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Aerial Man Lift (JLG) Operations Require ORM

By BMCS(SW) Charles Gum
Naval Safety Center

During safety surveys, we routinely see personnel working over the side on ships from aerial work platforms (AWP); or more commonly, JLGs.

One look at the area surrounding the operations can reveal whether the ship is complying with the requirements of OPNAVINST 5100.19E, Navy Safety and Occupational Health Program Manual for Forces Afloat, or not. Paragraph C0806 of OPNAVINST 5100.19E contains specific requirements that must be met in order for work to begin with (AWPs). A few of the requirements are:

- The operator of any AWP must be licensed according to local instructions. Those instructions must include the requirements in NAVFAC P-300 and completion of PQS (NAVEDTRA 43127-C) watch station 311.
- A “Working Over the Side” chit must be routed through the chain of command and posted on the quarterdeck.
- A paint punt must be placed in the water near the lift operations.
- All personnel in the basket of the AWP must wear a safety harness and safety lanyard.

- All personnel in the basket of the AWP must wear an inherently buoyant life preserver.

JLG OPERATIONS



You can find safety precautions required for safe AWP operations in paragraph C0806 of OPNAVINST 5100.19E. Don't let your AWP operations look like the picture.

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Relief Valves--Friend or Foe?

*By GSCS(SW) Ben Clarke
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Relief valves are designed to protect piping systems and equipment from over-pressurization damage. These valves allow fluids to be discharged via discharge piping—commonly called tailpipes—to a safe area where there is no danger to people or equipment. Is the tailpipe for your relief valve discharge installed; or, is it missing?

"What's the big deal?" you ask.

Hopefully, nothing at all—until, that is, a medical emergency gets called away after someone slips and falls, a shipmate gets shocked, or GQ is called away for a flooding. All of these emergencies are possible when you have a relief valve in a space without a tailpipe or one that has been disconnected. You know the kind I'm talking about—the one that gives the impression of a massive leak when it lifts. If the tailpipe is missing, where's the safe area? The deck plates, angle iron, power panel, electric motor, or it even may be you. Check your tailpipes and install the missing ones before you or a shipmate become another item in one of the monthly afloat mishap summary messages.

For more information about tailpipes, refer to paragraph 505-9.17.3 of NSTM 505 Rev. 3, *Piping Systems*.

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How is Your Spray Shield Integrity?

*By GSCS(SW) Ben Clarke
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Recent shipboard safety surveys have uncovered degradation in the material condition of spray shields. Additionally, there has been confusion over which spaces and systems require protection when located outside of main and auxiliary machinery spaces. The following information taken directly from paragraphs 505-7.9.1.4 through 505-7.9.4.5.4 of NSTM 505, *Piping*

Systems outline the exact requirements concerning spray shields.

Spray shields reduce the risk of fire by preventing atomized flammable fluid spray from coming into contact with a hot surface or energized circuit and igniting. These shields do not stop leaks but prevent flammable fluid from atomizing. When spray shields become wet from a leaking joint or fitting, repair the leak immediately and replace the soaked spray shield. Spray shields require quarterly inspection and immediate replacement when losing their ability to retain leaking flammable fluids. Spray shields will “Cover the perimeter of the flanged joint with an overlap sufficient enough to achieve complete enclosure. The side overlap will extend down to cover the bolts and nuts of the bolt circles on either side of the joint.” If the joint is butted against machinery such as lube oil piping fastened to a reduction gear, “Tightly secure the flange shield to the flange by fitting a metal band or hose clamp arrangement around the shield, and over the perimeter of the flanged joint.” Avoid painting spray shields. However, painted spray shields do not require replacement.

Where are spray shields required? They must be installed in areas outside main machinery and auxiliary spaces. Spray shields also are required when a flammable system pipe flange or valve bonnet flange is in the direct plane of an electrical switchboard, electrical equipment and enclosure, or a motor. For main and auxiliary spaces on fossil fuel surface ships, spray shields will be on all flammable system pipe flanges and valve bonnet flanges.

On nuclear-powered surface ships, spray shields are required for pipe flanges and valve bonnet flanges on lubricating oil and hydraulic systems in the “direct plane of, or 10 feet or less

from an electrical switchboard, electrical equipment enclosure.” For a detailed description of systems requiring spray shields and exclusions, review GSO 505(7e).

Spray shields are fabricated according to NAVSHIPS drawing No. 808-2145518. The drawings in ASTM F-1138 are repeated in NSTM figure 505-7-15. Order spray shields in 5-inch to 12-inch widths and 20 to 30 foot lengths through the supply system (NSTM table 505-7-2 refers). Regional Maintenance Centers no longer manufacture spray shields but will purchase them against a ship’s JSN.

The bottom line: Frequently inspect your spray shields and don’t wait to be “told” during your engineering assessment to install missing or worn spray shields.

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Understanding the Joint Fleet Maintenance Manual

*By CWO3 Robert Randall
Naval Safety Center*

The Joint Fleet Maintenance Manual (JFMM), COMFLTFORCOMINST 4790.3, is a standardized, basic set of minimum requirements to be used by all type commanders and subordinate commands. It offers clear, concise technical instructions to ensure maintenance is planned, executed, completed and documented within all fleet commands. Additionally, the JFMM is a vehicle for implementing regional maintenance policies across all

platforms as well as a comprehensive set of process descriptions for use by schools such as Surface Warfare Officer School (SWOS), Engineering Duty (ED), technical training, etc.

The JFMM is a living document which goes through frequent changes to accurately capture the various changes in policy and requirements. A promulgation letter for the latest change to JFMM Rev A, which is Change 7, was issued on February 28, 2008. We would like to specifically address three of the 161 changes that this version has incorporated.

- JFMM Volume 4, Chapter 25 provides amplification of the requirement for shipboard gas free engineering. Change 7



modifies note 5 to expand the scope of work where ship's force can certify gas free for ships force own work. All GFEs should review and become familiar with, as well as provide shipboard training to GFE POs about this significant change. Refer to JFMM Vol IV, page IV-25-2 for specific guidance.

- JFMM Volume 4, Chapter 10 has been changed to include instructions for revising an existing work authorization form (WAF) and includes a WAF revision sheet. Remember, the JFMM requires all outside activity work on ship's systems and components, regardless of who performs the work, requires formal authorization through a WAF for



the specific work to be accomplished.

- FMM Volume 4, Chapter 26 is the new location for the Board of Inspection and Survey (INSURV) Material Inspection Policy previously in Volume VI. For those unfamiliar, this chapter was established to define the responsibilities and provide guidance for the preparation and conduct of an INSURV Material Inspection (MI). Included is a POA&M for this important evolution, which includes a Naval Safety Center survey within 12 months of the MI. Although the requirement states that the survey is conducted within 12 months of the MI, we recommend scheduling this event between 3 and 6 months before the MI to receive maximum benefit.

Please make sure and review all of the changes to this most recent revision to the JFMM, and more importantly, conduct training on the deck-plates in those areas where the changes have direct impact. For further resources, to include all volumes of the JFMM online as well as training resources, please visit the JFMM homepage at <http://www.submepp.navy.mil/JFMM>.

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Make Sure Your Eyewash Stations Is Up to Specifications!

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

During recent safety surveys aboard east and west coast ships, we continuously found discrepancies with portable, gravity-fed emergency eyewash stations. The survey team saw five-gallon pressurized tanks; six-gallon, green plastic units; and the Fendall Flash Hood 400 that has a one-gallon cartridge. None of these are authorized aboard ships because they do not meet minimum American National Standards Institute (ANSI) NAVOSH water-flow standards.

All Navy shipboard, self-contained portable eyewash stations must provide a minimum of 0.4 gallons per minute for 15 minutes for proper water flow. Ships having five- or six-gallon eyewash stations should replace them with approved units available through the supply system. You can find eyewash-station specifications in Chapter B5 of OPNAVINST 5100.19E, Navy Safety and Occupational Health Program Manual for Forces Afloat.

A portable, self-contained eyewash station is an alternative to a plumbed station when a space has no potable water or if plumbed fresh water might contain hazardous chemicals or corrosives. The OPNAV instruction mandates that all eyewash stations are to be easily accessible in unobstructed locations and in an area requiring fewer than 10 seconds to reach. An eyewash station should be within 100 feet of any eye hazard. Their station must be clearly marked with a green sign having white

lettering indicating EMERGENCY EYEWASH STATION. Signs are available in the supply system under NSN 9905-01-345-4521, or you can make them in a ship's machine shop. The required minimum sign-size is seven inches-by-seven inches.

Portable eyewash stations also can be purchased from your local ServMart, although unit availability will be limited to the number of vendors distributing their products to ServMart. There are some manufacturers--Bradley, Fendall, and Emedco--from which ServMart can order newer, self-contained units.

The units are compact, hold eight gallons of water, and, by using modern technology, meet ANSI minimum-flow requirements. Since these manufacturers make various portable units, be sure what you purchase meets Navy PMS standards listed in the 6600-series MIP.

Eyewash stations are only a last resort: Sailors should always wear prescribed chemical splash-proof or non-vented goggles when working with chemicals or when painting. Goggles should also be worn when scraping, chipping, or working near any potential eye hazards—whether equipment, chemical, or other hazards like sandblasting.

If you observe safety procedures and wear only proper PPE while working, you should never have to rely on an emergency eyewash station.

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