



SHIP'S SAFETY BULLETIN



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THE OFFICIAL SAFETY NEWSLETTER OF THE SURFACE COMMUNITY

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The Naval Safety Command's (NAVSAFECOM) Surface Fleet Assessment Team has subject matter experts in Auxiliaries, Combat Systems, Damage Control, Deck, Electrical, Main Propulsion, SOH, Safety Administration and Weapons.

SHIP'S SAFETY BULLETIN (SSB) is intended for informational purposes only. Copies should be forwarded to DHs, DIVOs, LCPOs, LPOs and WCS for dissemination to all hands. This bulletin is approved for official distribution to the surface force and their appropriate staffs and schools.

The *SSB* is intended to advise DON personnel of current and emerging safety concerns to enhance their professional development and improve operational readiness. All photos are U.S. Navy unless otherwise noted. Current and past issues are available at <https://intelshare.intelink.gov/sites/nsc/>.

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Photo by Mass Communication Specialist 3rd Class Caylen McCutcheon



Recent fire, electrical shock data reveal mishaps occurred from improper stowage, disposal

By Senior Chief Damage Controlman Stephanie Littleton

From January 2019 to January 2022, 42 submarine and shipboard mishaps have been reported involving damage from fires and electrical shocks caused by batteries. These instances resulted from improperly stowed or improperly disposed of batteries. Analysis revealed battle lantern batteries or 6V batteries were not the only ones causing mishaps. There continues to be a general lack of understanding that batteries are hazardous material and must be stored and disposed of accordingly.

Figure 1 shows the most common dangers associated with batteries are fire and electrical shock. These dangers are most prevalent with battle lantern 6V batteries. The 6V batteries are a required planned maintenance system (PMS) item for damage control lighting systems and must be validated in proper working condition quarterly.

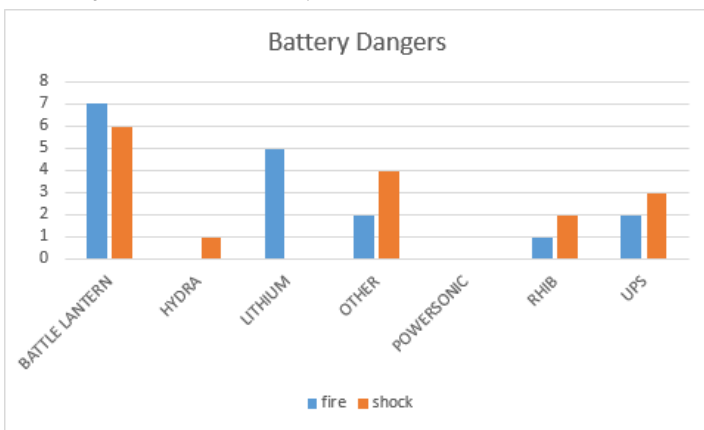


Figure 1

Data revealed Sailors are not following the safety notes of Maintenance Requirement Card (MRC) 6641/004, Q-4 associated with battle lanterns that reads:

“The incorrect stowage of battle lantern batteries has been the direct cause of numerous fires [aboard] ship due to short-circuiting of exposed battery terminals. All batteries removed from service as a result of maintenance performed from this

MRC shall be repackaged and stowed safely in accordance with the Safety Precautions and Storage of Batteries paragraphs of [Naval Ships’ Technical] NSTM 313.”

A 6V battery is a lead acid battery type cell that requires the Hazardous Material Minimization Center to containerize used batteries for shore disposal. Improper stowage contributes to most 6V battery fires, as seen in Figure 2.

The NSTM 670 states 6V lead type battery cells are to be stored per Safety Data Sheets (SDS). Section 7 of the SDS, Handling and Storage for Lead Type Battery Cells, states batteries are to be stored in cool, dry, well-ventilated areas separated from other incompatible materials and from activities that may create flames, spark or heat.

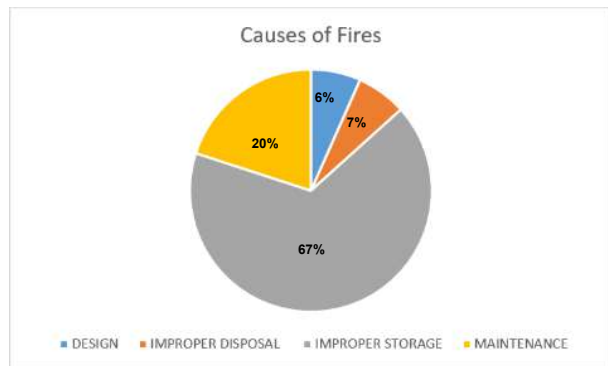


Figure 2

According to Risk Management Information (RMI) data, Sailors are placing batteries in shop drawers with other items including hazardous material (hazmat), tools, parts and materials to accomplish daily requirements.

It is imperative the negative and positive terminals of the battery do not come in contact with any metallic articles which can cause a fire. When delivered to naval ships, batteries are stored in individual boxes with cardboard partitions between the batteries. Plastic caps are on the leads of each battery to reduce the risk of coming in contact with metal objects. None of the fires reported were located in the ship’s proper hazmat storage or dry storage room in supply. All of these fires were reported originating from inside drawers or cabinets, where Sailors haphazardly placed them.

Recommendations:

- NAVSAFECOM recommends leaders focus on checking for improperly stowed batteries during zone inspections and ensure personnel who conduct maintenance using 6V batteries adhere to all procedures and safety precautions as outlined in the Safety Data Sheet Section 7.2: Conditions for Safe Storage and NSTM 670 Appendix E.
- In NSTM 313, the section for lead acid batteries refers back to NSTM 670, which refers to the SDS. Recommend NAVSEA remove the ambiguity on where to find information regarding the proper stowage and handling of batteries in PMS cards by referring to the SDS.

If any questions regarding afloat battery stowage and disposal, email navsafecen_code30_afloat@navy.mil.

Engineering Casualties

and

Process Improvements

By CWO3 Angel De La Cruz

In the last five years Navy ships experienced seven Class A mishaps for engineering casualties totaling more than \$25 million in damages. These include main reduction gears (MRG), line shaft bearings (LSB) and oil distribution (OD) boxes.

Over the past 15 years, six MRG casualties have occurred. Investigations revealed the causes ranged from normal wear and tear to lack of procedural compliance and complacency. Procedures in the Navy have changed in response to some of these casualties to prevent reoccurrence but it is imperative our Sailors are trained and adhere strictly to the Engineering Operational Sequencing System (EOSS) and applicable Naval Ships' Technical Manuals (NSTMs).

Following is a sampling of incidents and subsequent investigations that have occurred over the years:

January 2007 - A guided missile destroyer's (DDG) number one Main Machinery Room's MRG exploded after placing its dehumidifier in operation following corrective maintenance from a previous "unidentified as such" explosion (November 2006). A flash point test of the MRG's oil revealed a flash temperature lower than that found in fuel. The cause of the casualty was a combination of faulty dehumidifier components that led to a Class C fire which ignited significantly degraded MRG lube oil.

The follow-up investigation revealed many needed personnel process improvements:

- Procedural compliance. No formal work package (FWP) developed for corrective maintenance.
- Failure to use good engineering practices. The L/O samples and installation of muslin bags in system improperly logged in Engineering or Lube Oil Quality Management logs.
- Identifying signs of further damage/questioning attitude. The November 2006 initial casualty displayed evidence of explosion which ship's leadership ignored.
- Failure to adhere to physical security requirements.



Photo by Mass Communication Specialist 3rd Class Eric Stanton

Damage Control Fireman Jonathon Vazquez annotates areas requiring maintenance during an inspection in Damage Control Repair Locker 4 aboard USS Ronald Reagan (CVN 76), in the Philippine Sea.

Following the casualty, the MRG access covers were secured using zip ties and access control to the space was maintained by the IEM (in port equipment monitor). This condition was eventually corrected by direction of the immediate superior in command's N4.

April 2014 - A DDG's number one MRG had an explosion. An investigation revealed the mishap's cause to be similar in nature to the January 2007 casualty. Process improvement areas and causal factors revealed by the follow-on investigation include:

- Need to increase level of knowledge. A non-standard procedure was used to perform a flash point test following the casualty. Smoke was not called away by the officer of the deck or central control station supervisor which delayed combating efforts.
- Design issues. The lube oil heater (LOH) borescope revealed coke was significantly fouling the bundles, leading to reduced heat transfer.
- Faulty equipment. The NAVIFLASH aboard tested the lube oil as "SAT" the day before the mishap when the oil's flashpoint was significantly lower than normal.

March 2017 - An amphibious transport dock operated its MRG on the turning gear for 10 hours without lubrication. This cost the Navy over \$800,000. The cause of the casualty was use of an improper procedure under insufficient supervision. Some of the causal factors identified during the investigation include:

- Improper procedures. Wrong procedure was used to secure the MRG by the under instruction (U/I) watch stander.
- Lack of direction. The chief engineer (CHENG) did not provide night orders to ensure adequate guidance to the engineering duty section personnel.

Continued on Page 4

EOSS, NSTM adherence critical to safety

Continued from page 3

- Watchstanders fatigued. Lack of qualified personnel led to extra watches, leading to fatigue which in turn led to lack of procedural compliance.
- Lack of supervision. There was a culture of complacency within the engineering department and poorly trained watch standers. The investigation revealed at all levels of the engineering chain of command procedures were omitted or ignored.

October 2021 – A guided missile cruiser (CG) conducted at sea operations with a Line Shaft Bearing (LSB) oil sump empty. This led to a costly unscheduled maintenance period where the LSB and shaft had to get replaced. The causal factors to this casualty were lack of: procedural compliance, proper supervision and forceful back up. The culture of the ship’s engineering department was that of complacency and gun decking from the most junior Sailor to the CHENG. Some of the identified causal factors include:

- Inadequate generated temporary standing order (TSO). TSO addressing the LSB’s damaged remote temperature element (RTE) did not give specific guidance on actions in the event of casualty nor temperature range to monitor.
- Inadequate supervision. The chain of command believed watch standers were gun-decking logs and samples and yet no actions were taken to validate reports or hold them accountable; nor to fix the issue.
- Procedural compliance. Probable cause of the low oil level was the LSB sampling valve was not closed properly after sampling per applicable PMS MRC.
- Lack of knowledge. The engineering officer of the watch (EOOW) failed to recognize signs that could have prevented or mitigated the casualty from the reports made by watch standers. The EOOW had sufficient information but failed to recognize the impending mishap and take controlling and immediate actions.

The cause of nearly all of these mishaps included a lack of procedural compliance. Sailors typically come to work with the intention of doing a great job and following the written guidance provided. So, why do we still have so many casualties stemming from procedures deviations? We need leaders and supervisors to ensure their Sailors develop competency.

Proper training needs to be provided, followed by forceful back up and oversight to safeguard the success of our Sailors and adherence to procedures. In cases that this is not achievable, it must be documented and raised to the correct level in the operational chain of command or Type Commander/Systems Commander (TYCOM/SYSCOM). We need to ensure the risk is understood and appropriate controls and risk assessment and mitigation is installed to confirm our Sailors are operating safely.

In some cases, reduced manning, lack of maintenance facilities or capabilities, inadequate school curriculum and insufficient school quota availability may be contributing factors to our lack of procedural compliance. In these cases, the specific details involving these challenges must be raised to the appropriate level in the chain of command so they can correct the issues, otherwise risks will continue to be accepted at the wrong level.

Recommendations:

Many of the leading causes to the casualties can be mitigated with competent Sailors and risk-aware culture. Competency is derived from a rigorous shipboard training and qualification program that builds upon the educational experience provided by Navy schoolhouses.

Don’t settle on merely training your Sailors, focus on developing them into competent watch standers and technicians who adhere to Standard Shipboard Operating Principles. We must invest in the development of our Sailors just as much as we invest in mission accomplishment.

The Naval Safety Command recommends the following:

- Use the ATG LOQM ASA check sheets quarterly to assess the health of the program and adhere to a POAM to aggressively correct identified discrepancies.
- Build departments that embody the Engineering Department Operational and Regulations Manual’s (EDORM) five engineering management precepts:
 - Stress “Quality” Training/Qualifications
 - Adherence to Approved Operational Procedures
 - Adherence to Approved Maintenance Procedures
 - Clear Communications
 - Increased Level of Knowledge

References

- NSTM 241
 - NSTM 262
 - NSTM 555
 - EDORM
-
-



Photo by Mass Communication Specialist 3rd Class Theoplis Stewart II

Damage Controlman 1st Class Joseph Deblaso, left, and Chief Yeoman Vinisha Udell, review a material safety data sheet during an in-port emergency team drill aboard USS Jason Dunham (DDG 109) in the Atlantic Ocean.

Know where your vessel's SDS' are located

By Senior Chief Hospital Corpsman Jennifer Nolen

Hazardous materials (HAZMAT) are part of everyday life aboard naval vessels. In the past 10 years, there have been 136 HAZMAT exposures on cruiser-destroyer platforms alone. These materials are used for maintenance, cleaning and can even be found in the galley. Hazardous materials are in very common places, but what makes up the chemicals? What hazards do they pose to your skin, eyes and even your equipment? Where do you look to find this information?

The Safety Data Sheet (SDS) contains all the information you need to know to handle hazardous materials safely. The SDS describes the hazards the chemical poses, the ingredients and chemical make-up, first-aid measures to take upon exposure, fire-fighting measures, spill and clean-up measures, storage and handling procedures, reactivity to other materials, toxicology hazards and ecological hazards. All of this information is important to know when handling these materials.

When is the appropriate time to review the SDS? After the HAZMAT has been spilled, the satellite locker containing HAZMAT is on fire or when the HAZMAT has splashed onto your skin or into your eyes? The answer is a resounding no! You should review the SDS before taking possession of any type of HAZMAT. This responsibility lies with the user. Every Sailor

using hazardous material should take it upon themselves to become familiar with the hazards.

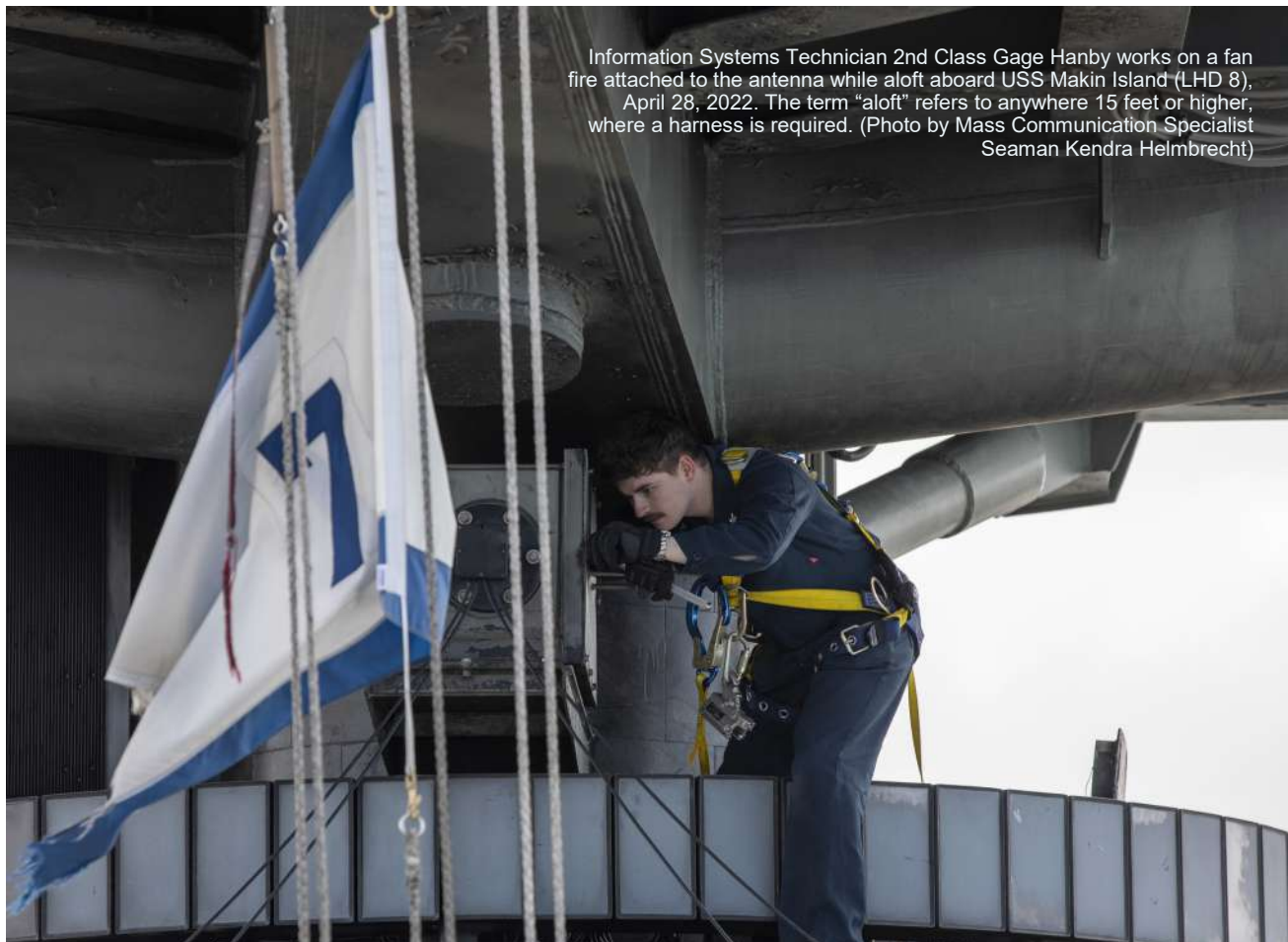
All Hazardous Material Minimization Centers (HAZMINCEN) should have a procedure in place to ensure Sailors review and are familiar with the hazardous materials they are being issued. Per OPNAVINST 5100.19 Series:

- Ensure SDS' are available to all hands, in Medical and are current. Up-to-date SDS' are promulgated via CD's distributed by Consolidated Hazardous Material Reutilization and Inventory Management Program personnel and are available online through the manufacturer websites.
- The HAZMINCEN should also ensure that per NSTM 670 and OPNAVINST 5100.19 Series, all hazardous materials that are dispensed from bulk containers into secondary containers have a label containing the type of material, manufacturer name and nature of the hazard.
- All Sailors handling hazardous materials must be familiar with the SDS to ensure awareness and knowledge of make-up, hazards presented and emergency procedures for the materials being used. The HAZMINCEN and Supply department can direct you on how to attain SDSs for the hazardous materials you use.

Working Aloft and

Over the Side

Information Systems Technician 2nd Class Gage Hanby works on a fan fire attached to the antenna while aloft aboard USS Makin Island (LHD 8), April 28, 2022. The term "aloft" refers to anywhere 15 feet or higher, where a harness is required. (Photo by Mass Communication Specialist Seaman Kendra Helmbrecht)



By Senior Chief Gunner's Mate Paul Fahrenbach

Working aloft or over the side aboard a naval vessel can be dangerous if the proper safety precautions are not maintained or followed. In 2021 the Naval Safety Command received five reports, which resulted in event cost and injuries of \$397,200. During recent assessments, some of the discrepancies found were not following correct aloft authorizations per OPNAVINST 5100.19 and ship's instruction. Combat Systems Officers of the Watch (CSOOW) were not verifying the authorization sheets, allowing unqualified personnel to go aloft or serve as the safety observer and qualification trackers were not updated.

Other discrepancies found throughout the fleet were climber safety rails with excess rust and paint, cracked rails or mounting brackets and missing pin(s) on the top of the rail that prevents the climber safety sleeve from detaching.

Recommendations

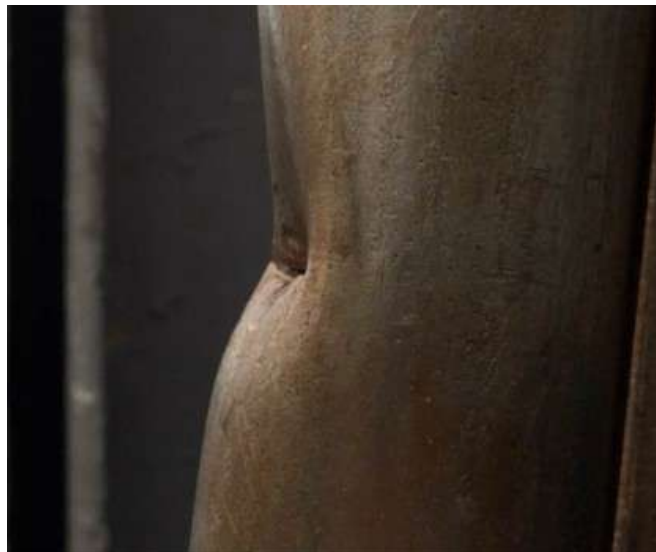
The best way to avert working aloft or over the side mishaps is the CSOOW, the personnel going aloft or over the side and the personnel whom issue harnesses to use the following forms:

OPNAV 5100/23 aloft check sheet and OPNAV 5100/24 over the side check sheet, before commencing work with a qualified safety observer. This would prevent most of these discrepancies from taking place and potentially prevent injuries and costly mishaps from occurring. The Naval Safety Command recommends all personnel be thoroughly familiar with the 2020 Department of the Navy Fall Protection Guide, to include the following:

Before using fall protection equipment, the end user must be trained on the safe use of the equipment. All end users exposed to fall hazards and using personal fall protection equipment must receive a minimum of 16 hours or as appropriate, Fall Protection training including hands-on training and practical demonstrations (performance assessment).

Prior to use, inspect all safety equipment, safety rails and tie points by performing required maintenance checks. The MIP 6231/002 covers maintenance and inspection of aloft harnesses before use, after use and periodic checks to ensure all safety gear is ready to be used or replaced for future use. The MIP 6121/003 series specifies checks for cleanliness and inspection of the

Before using fall protection equipment, the end user must be trained on the safe use of the equipment.



Left, crack in climber safety rail

Far left, bracket for ladder rusted off

Bottom, safety pins missing or not installed on top of climber safety rail

climber safety rails, to include the pin installation at the top of the rail. Ensure the maintenance person is checking for cracks in the safety rail and welds, as some have manufacturer defects that NAVSEA is aware of. If found, notify the work center supervisor and tag the climber safety rail out of service per Tag-Out procedures, Tag-Out User's Manual and local tag-out instructions.

These cracks do not necessarily make the climber safety rail unsafe to use, because the climber safety sleeve was designed to catch anywhere on the rail. If cracks are found or welds appear suspect, mark the spot or weld in question to have IMA/Depot-level workers further investigate suspect welds.

The maintenance activity will perform nondestructive test inspection per applicable standards and repair any unsatisfactory weld joint or replace the climber safety rail during the ship's next availability. Retain a copy of IMA/Depot inspections and repairs in Combat System smooth logs and work center logs for future use and historic data.

If you have any questions regarding afloat safety matters, email navafecen_code30_afloat@navy.mil.



References:

- OPNAVINST 5100.19F, Section C, Chapter 8, Navy Safety and Occupational Health Program Manual For Forces Afloat
- OPNAVINST 5100.23H, Section B, Chapter 6 & 20, Navy Safety and Occupational Health Manual, Volume I: Navy Safety Management System
- OPNAV 5100/23, Working Aloft Check Sheet, Chapter C8, Subparagraph 2a
- OPNAV 5100/24, Working Over the Side Check sheet, Chapter 8 Subparagraph 2a
- Risk Management Information



HOT WORK

Non-compliance events unnecessarily add to risks

By Lt. Cmdr. Reuben Attah

Hot work is a leading cause of fires aboard submarine and surface ships, particularly during industrial availabilities when the defense-in-depth design of our damage control system is reduced in capability. The 2018 fire aboard USS Oscar Austin is a testament to this. Fire prevention and response requirements are clearly spelled out in references (a) through (d) at the end of this article.

Common to all units with healthy fire prevention programs is a crew who proactively and vigorously monitors and fixes their own program. During Naval Safety Command (NAVSAFECOM) assessments, we routinely observe non-compliance with basic fire prevention measures. A few common discrepancies include inadequate fire watch during active hot work, inadequate walk-throughs conducted by the fire safety council and inadequate survey of the planned worksite to remove flammable, combustible, or explosive hazards as part of the hot work authorization process. Each of these non-compliance events unnecessarily adds to our risk and yet each of them are well within the submarines/ships' capability to self-assess and self-correct.

Recommendations:

The best way to avert fires is to have an aggressive and proactive fire prevention program which goes beyond just the duty fire

marshal or duty officer. Fire prevention is an all-hands effort, all of the time. The NAVSAFECOM recommends the following:

- Quarterly self-assessment of your hot work authorization process to ensure conformance with references (b) para 4.2 and (c) para 074-10.8
- When fire watches are provided by contract personnel, it is still the ship's responsibility to conduct walk-throughs and to provide sufficient oversight to ensure they are meeting all requirements. Continually monitor and periodically self-assess the adequacy of the fire watch happening aboard your ship/submarine per reference (c) para 074-10.8.4.1.
- For ships in availabilities, periodically self-assess your fire prevention compliance using ATG ASA Check sheet (MOB -D ASA 6). Increase self-assessment frequency if you routinely discover non-compliance.

References

- a. OPNAVINST 5100.19F, Section C, Chapter 11, Navy Safety and Occupational Health Program Manual for Forces Afloat
- b. S0570-AC-CCM-010/8010 CAN 3/A, NAVSEA Technical Publication, Industrial Ship Safety Manual for Fire Prevention and Response
- c. S9086-CH-STM-010, NSTM 074, Volume 1 Rev 6
- d. S9002-AK-CCM-010/6010, Industrial Ship Safety Manual for Submarines
- e. MOB-D ASA CHECKSHEET 6

Fall Protection Program: Challenges in the Fleet

By Lt. Cmdr. Gary Ullrich

Recent NAVSAFECOM local area assessments have identified a majority of units do not have an effective Fall Protection Program (FPP). A contributing factor is attributable to a lack of properly trained and qualified FPP managers (FPPM) or competent persons (CP). In resident and virtual courses of instruction are available; however, units have expressed challenges finding space in their operational schedule to allow Sailors to attend the training, as well as difficulty acquiring seats or completing the online ESAMS course due to connectivity issues aboard ship.

The FPP's goal is to prevent injuries and fatalities when personnel working at heights are exposed to fall hazards. In 2019 a Sailor fell to his death from the ship's brow through a gap between the installed safety net and the ship. Had a robust fall protection program been in place and this hazard identified, this tragic outcome might have been avoided.

A successful FPP relies on two key roles, the FPPM and the CP. The FPPM is responsible for developing, implementing and managing the FPP at the activity, while the CP is responsible for immediate supervision, implementation and monitoring of the FPP. The FPPM must draft a local fall protection instruction which addresses working over the side, working aloft, and interior and deck areas of a ship which meet parameters listed in OPNAVINST 5100.19F CH 13.d. (3). Both the FPPM and CP are key to successfully managing the following fall protection program components as listed in the Department of the Navy's 2020 Fall Protection Guide:

- Command/Activity Policy
- Duties and Responsibilities
- Workplace Surveys and Assessment of Fall-Hazards
- Fall-Hazard Prevention and Control, including the preparation of Site-Specific Fall Protection and Prevention Plans
- Training Requirements
- Inspection, storage, care, and maintenance of personal fall protection equipment
- Rescue plans and procedures
- Fall mishap reporting
- Audits and evaluation

The development and management of these components requires a considerable investment of time and preparation to ensure the command is adequately prepared in all aspects of fall protection.

However, the responsibility, scope and many unique fall-hazard scenarios encountered aboard a naval vessel cannot be underestimated. Program stakeholders and unit leadership must understand the risk assumed by the command and to personnel by not having a competent and properly trained team managing the FPP.



Electronics Technician 3rd Class Michael Turner, above, and Machinist's Mate 2nd Class Richard Lettenberger, participate in a fall protection course in the hangar bay of USS Carl Vinson (CVN 70), April 8, 2022. (Photo by Mass Communication Specialist Seaman Apprentice Isaiah B. Goessl)

If the requirements cannot be met it is imperative that the specific obstacles be provided to the command's type commander requesting the resources for completion.

Recommendations

To ensure a solid foundation is in place on which to build an effective program NAVSAFECOM recommends the following:

- Select personnel as FPPM and CP who are organized and detail oriented.
- Provide the appropriate time and resources to conduct the necessary foundational work off which to build a robust program.
- Conduct quarterly self-assessments of your Fall Protection Program per the compliance audit checklist in the Fall Protection Guide.
- Contact the NAVSAFECOM afloat safety directorate at NAVSAFECEN_CODE30_AFLOAT@navy.mil for any FP-related questions or assistance.



Culinary Specialist 3rd Class Kavazia Rice cuts shrimp in the galley while preparing for dinner aboard USS Benfold (DDG 65), Sep. 17, 2022. (Photo by U.S. Navy photo by Mass Communication Specialist 2nd Class Arthur Rosen)

Knives out

Improper use leads to countless injuries for Sailors, Marines

By Senior Chief Fire Controlman Dan Allred

In the last 10 years Sailors and Marines have reported nearly 300 incidents of injury from the use of knives. Unfortunately, the majority of these reports consist of members using the tool incorrectly. For nearly as long as humans have roamed the earth, we have been using knives for cutting, eating and many other tasks. Knives remain a common and often appropriate tool for many tasks that require cutting and over time we have developed better, safer, and more efficient tools that are more appropriate for many tasks.

The best way to avoid knife injuries is to ensure Sailors and Marines at all levels are aware of the hazards and have been trained in the proper use of knives and safe work practices associated with them.

See OPNAVINST 5100.19F, Section C, Chapter 19 and NAVEDTRA 14256A (Sept 2015), Chapter 6 for guidance on safety precautions and work practices.

Additional recommendations:

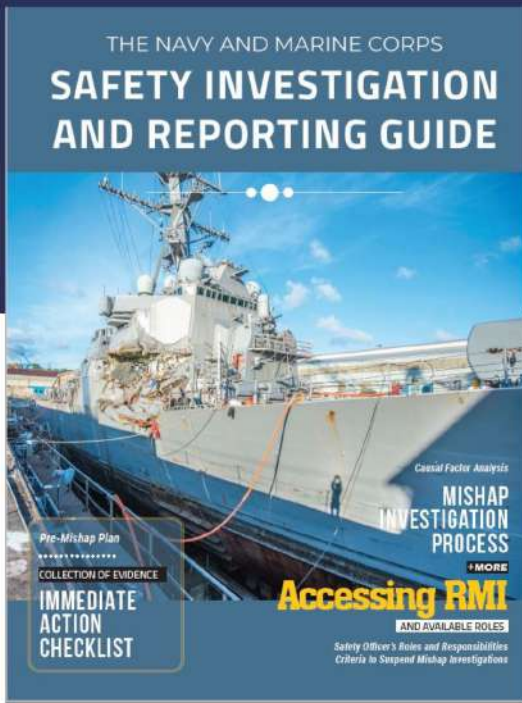
- Leaders should take a proactive approach to ensure

Sailors and Marines are adequately trained in knife safety and include proper safety techniques into pre-operation briefs to emphasize understanding of these safety precautions.

- Use the proper tool for the job. A knife is not a screwdriver, pry bar or scraping tool!
- Do not use knives which are larger than can be handled safely
- Do not carry open knives in pocket.
- Hold knives firmly ensuring the handles are dry and free of grease
- Keep knives sharp at all times. A dull knife requires greater force while cutting, which increases the odds of injury.
- Keep the free hand away from the sharp edge when cutting.
- When cutting, direct the sharp edge of the knife away from yourself and others.
- If you drop a knife, *do not* attempt to catch it.
- Do not run or participate in any other activity while holding an open knife.

The Naval Safety Command, located on Naval Station Norfolk, provides resources and guidance to develop a Navy safety culture in which everyone is trained and motivated to manage risk, and to ensure the combat readiness of our forces and the Navy's global warfighting abilities.

We provide policy, doctrine and guidance; safety surveys and best practices, assessment visits, training and education, multimedia products, marketing and outreach campaigns, and recognition and awards programs.



THE NAVY AND MARINE CORPS SAFETY INVESTIGATION AND REPORTING GUIDE OCT 2022

The Navy and Marine Corps Safety and Investigation Reporting Guide, OCT 2022, is available for download on the NAVSAFECOM website!

The Navy and Marine Corps Safety Investigation and Reporting Guide is a document intended to complement the OPNAVINST 5102.1E / MCO 5100.29C Vol 9. The guide covers the basics of safety investigations and mishap reporting, protection of privileged safety information, details on the mishap investigation process, and a sample pre-mishap plan to aid unit safety officers in the performance of their duties.

Click on the Resources tab at <https://navalsafetycommand.navy.mil> to download your copy.



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