

Office of Marine and Aviation Operations

SAFETY NEWS

From the Safety and Environmental Compliance Division

SECOND EDITION

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With winter weather upon us, we are reminded to please take care when moving about under potentially wet and snowy conditions. Included in this month's edition "common interests" section is a very good article on preventing slips, trips, and falls. We hope it serves as a good reminder to be careful to avoid slip, trips, and falls at work and at home especially this time of year. Also included in this month's edition is updated information on the work being done by the Fleet Standards Office (FSO) developing safety and environmental standards for the fleet. In addition, as planned for all editions of the newsletter, there is a section covering this month's accident statistics and a summary of recent accidents along with news and notes from around the organization. We are happy to report a significant reduction in accidents this month and encourage everyone to keep up the good work and to remain diligent to prevent accidents.

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POLICY SPOTLIGHT

The Fleet Standardization Office (FSO) continues to address both Safety and Environmental related issues through the development of policies and procedures for OMAO. The procedure standardization effort, Document Management System (DMS) and the Fleet Operating Manual along with audit processes, non-conformity reporting and internal reviews are all critical components, that when integrated and fully implemented in the fleet and shore-based support offices will help support a formal safety management system – FOMS - Fleet Operating Management System.

FSO is participating with the Environmental Procedures Workgroup under Marine Operations Center (MOC) Safety, Training, Environmental, and Management (STEM) staff to move procedures such as Ship Oil Spill Emergency Plan (SOPEP) and Fuel Handling to final approval for the fleet. Both have just been approved and the SOPEP has USCG approval for fleet-wide application representing the first time we have had a fleet-wide plan. Several environmental related procedures are in the works under this group. A fleet-wide shore-power hook-up

procedure will be approved shortly. FSO is also working with Health Services to complete the NOAA Ship Health Plan for the fleet.

Remember, please use the OMAO DMS bulletin system in lieu of procedure/guidance by email. Questions, comments and recommendations regarding the OMAO Document Management System should be directed to Chief.FSO@noaa.gov. Strive for “continual improvement.”

Find the DMS @: <http://10.49.29.4/WebDesktop/Binders.aspx>

COMMON INTERESTS

Below is an excerpt from an article on preventing slips, trips and falls published by the State of Maine Municipal Association, Risk Management Services, in April 2005. It provides an easy to read comprehensive list of 16 items that serve as good reminders on what to do to prevent slips, trips, and falls.

SAFETY SHORTS

PREVENTING SLIPS, TRIPS AND FALLS

What You Can Do To Prevent Slips, Trips, and Falls

- Wear footwear that is appropriate for the conditions inside and outside. On smooth or wet surfaces wear slip resistant soles. On snowy, icy and rainy days wear boots to work and change after arriving.
- Clean footwear of mud, snow, etc. when entering a building.
- Be aware of changes in elevation and changes in walking surfaces. When moving from carpet to tile or dry tile to wet tile, etc. the friction (grip) between the sole of the shoe and the floor surface lessens. Alter your stride to take shorter, slower steps.
- Walk, don't run through work areas. When possible, stay on marked travel aisles and paths. Don't take “shortcuts” around machinery and equipment. Avoid areas that are cluttered or dimly lit.
- When carrying a load, make sure you can see over and around it. Scan the area ahead and plan your travel path. Get help to carry heavy or awkward objects. Use carts or other mechanical aids.
- Clean up, correct, remove or report unsafe conditions such as spills, electric cords, frayed carpets, worn stairs and other hazards that could result in a slip/trip/fall injury. Warn others that a hazard exists by placing signs or cones or by isolation with caution tape or barricades.
- Do not allow equipment, tools, materials or other obstacles to accumulate in aisles or walkways. Never store or place items on stairs.
- Keep desk and file cabinet drawers closed when not being used or when unattended.
- Always use a ladder or step stool. Never stand on a chair, desk, shelf, crate or box or any other unstable items to reach something. If you must routinely reach items in high locations, purchase a ladder or steps to allow it to be safely done.
- Walk erect using even strides and good balance. Always use handrails when available.
- Use “three point positioning” when entering or exiting trucks, equipment or construction

vehicles. Maintain three points of attachment at all times; both hands and one foot or both feet and one hand. Enter and exit equipment facing it. Use all of the steps, never jump.

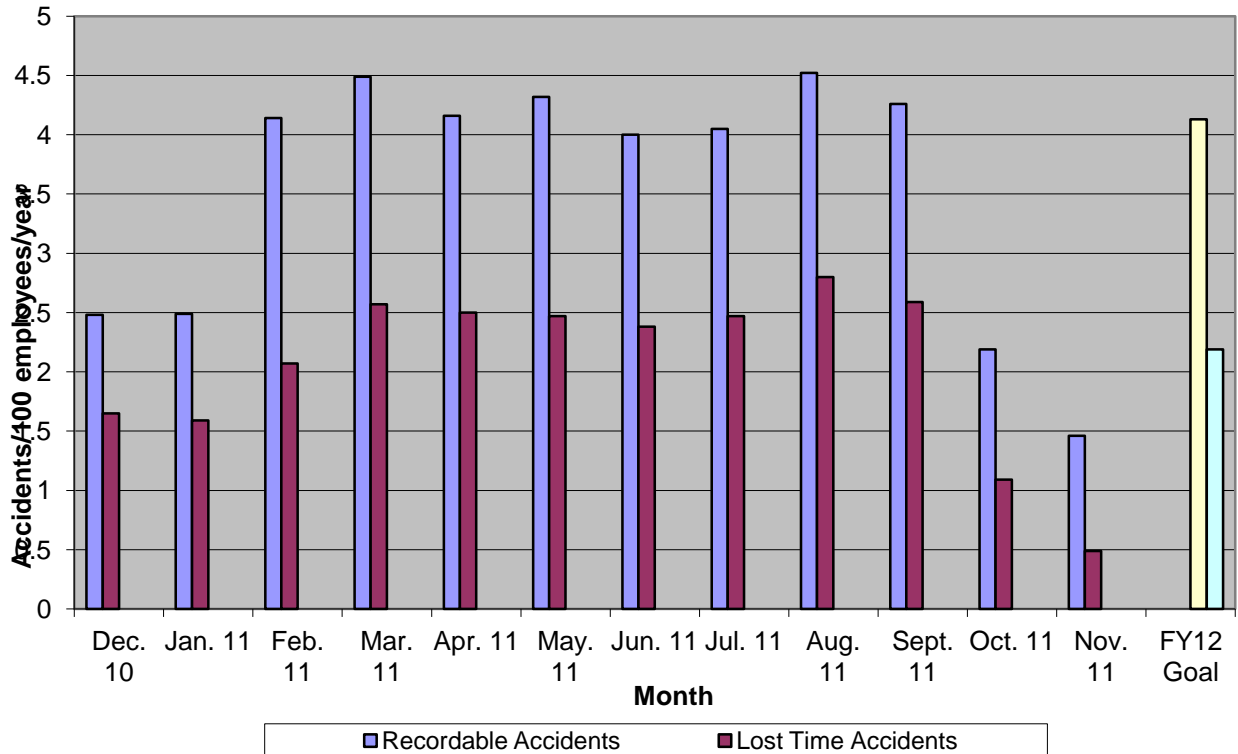
- Maintain floors clean, free of water, oil or grease. Areas such as mechanics bays may be periodically steam cleaned. Tiled floors such as in kitchens or school cafeterias that have been worn or filled smooth can be etched to restore a rougher surface.
- Apply non-slip surfacing such as adhesive backed sheets, anti-slip paint, open-spaced grates or mats to ramps, docks, platforms or stairways recognized as hazardous.
- Paint edges where elevation changes occur with “caution yellow” paint. Post signs to warn of dangerous areas.
- During winter months remove snow and ice and apply sand and salt before employees come to work and frequently thereafter. Note areas that drain poorly, retain snow, or are habitually slippery, and initiate permanent changes (engineer out) to eliminate the hazard.
- Conduct periodic inspections of the property and grounds to identify and correct slip, trip and fall hazards. Consider hazards to employees and possible liability exposures for the public. Review interior and exterior walkways, stairs, handrails, pavement conditions, parking areas, lighting and all other hazards mentioned in this Safety Short.

ACCIDENT STATISTICS

The total number of OMAO near miss, minor/first aid, medical treatment, lost time, and environmental incidents reported in December 2011 is listed in the table below. A bar chart showing monthly recordable and lost time accident rates follows.

Near Miss – 0 None reported
Minor/First Aid – 1 Laceration – 1
Medical Treatment – 2 Slip Trip Fall - 1 Other/Illness – 1
Lost Time – 0 None reported
Environmental – 2 Non-injury - 2

OMAO Accident Rates



The bar chart above shows OMAO accident rates over the previous 12 months. As can be seen, although OMAO experienced a series of high rates during FY11 there has been a significant decrease over the past two months. We have found these types of fluctuations are often attributable to changes in operating tempo and field season activities. Please keep this in mind and plan to participate in safety stand-downs and safety-related activities accordingly. OMAO accident rates in FY11, current year-to-date rates, and goals for FY12 are listed below.

	FY11 Total	FY12 YTD	FY12 Goal
Recordable Accident Rate	4.26	1.46	4.13
Lost Time Accident Rate	2.59	0.49	2.19

For more information about accident rates see this month’s “Term of the Month.”

RECENT INCIDENTS: CAUSES AND LESSONS LEARNED

This section provides a description of recent incidents that have occurred in OMAO. In many cases, more thorough follow-up investigations have been conducted and more comprehensive lessons learned have been disseminated to targeted audiences within OMAO. The information below is intended to remind us of the importance of staying safe.

Description: During the night watch, an engineer aboard ship had just completed a daily routine internal fuel oil transfer operation from a fuel oil bunker tank to the starboard fuel oil day tank without incident. As a matter of standard practice, the oil that had been transferred into the day tank was then re-circulated using the fuel oil purifier. About an hour into the re-circulation operation, a deck watchstander and other crewmembers noticed an increased odor of fuel oil within the ship. Upon investigation, it was discovered a significant amount of fuel oil was on deck in the vicinity of the day tank goose neck and in the engineer's work shop/storage room in the vicinity of the day tank sounding tube. The engineer on watch was notified and the recirculation operation was secured. Further investigation revealed improper valve alignment for recirculation of the starboard day tank led to overflow of the tank and a significant oil spill overboard. The ship notified authorities and activated its oil pollution emergency plan to mitigate and clean up the spill. Actions taken by the ship including follow-up investigations and corrective actions significantly reduced the potential severity of the incident and its aftermath.

Casual Factors: The primary cause of the spill was improper valve alignment. Contributing factors included poorly marked valves with limited access having no valve wheels or handles for ease of operation. In addition, there were no visual reminders in the area of the operation or checklists used to help ensure that valves had been properly aligned.

Lessons Learned: Ensure procedures are adequate and are followed to prevent incidents, even those involving routine operations. Treat every operation as a new one. Maintain watches and conduct rounds at optimal frequency, times, and locations. As it relates to ship system and equipment operation, install mechanical indicators or controls with adequate signage to serve as a visual reminder to ensure proper procedures are followed. Ensure oil transfer procedures

Description: A diver was conducting a technical dive to 176 feet with a total bottom time of 23 minutes. No issues were reported during the bottom phase of the dive and the diver began the ascent with other members of the dive team on schedule. Midway through the 20 foot oxygen decompression stop, the diver was observed to be fidgety and a few minutes later did not respond to routine hand signals given by the dive buddy. Facial twitching was also observed. Assisted by the dive buddy and one of the support divers, the diver was brought to the surface. Recompression therapy was initiated aboard ship. The diver was transferred to a local hospital ashore where additional medical attention and recompression therapy was provided.

Casual Factors: Although there were no operational infractions of OSHA or NOAA diving regulations, standards or policies, there were two administrative requirements which were not met which have been addressed in a corrective action plan. The diver suffered from oxygen toxicity, a very rare and unanticipated physiological response to breathing gas mixtures with high partial pressures of oxygen. There was secondary Arterial Gas Embolism (AGE), the underlying cause for which cannot be determined conclusively. There was no indication that the diver refrained from breathing during ascent (the most common cause of AGE), however the diver's shallow breathing immediately prior to and during the ascent from 20 fsw may have been a contributing factor.

Lessons Learned: Adherence to the NOAA maximum oxygen exposure limits rarely results in an oxygen toxicity event. However individual susceptibility to oxygen toxicity varies from person to person and cannot be anticipated or predetermined. In this incident, the diver was well within the exposure limit and no additional contributing factors were noted. This only reinforces the notion that diving maladies can occur even if the rules are followed and the diver does everything right. Thus, extra conservatism should be

are current and oil transfer checklists are followed. In addition, ensure oil pollution emergency plans are maintained and exercised regularly.

considered when diving with elevated partial pressures of oxygen.

Description: A crewmember was performing routine duties on deck at sea and experienced a series of several slips, trips, and falls over a period of approximately three hours. The crewmember was examined by the medical person-in-charge aboard the ship. The falls caused what appeared to be minor injuries to the ankle and knee, and first aid was administered. The following day, the crewmember reported for duty and after approximately an hour on the job, pain, swelling, and discomfort related to previous day's injuries became worse and resulted in the crewmember requiring additional medical attention.

Causal Factors: The crewmember was newly assigned. Inexperience on the vessel was a causal factor in this case leading to improper technique to prepare for and brace against ship's motion at sea. Subsequent re-injury was due to employee not recognizing the severity of initial injuries and returning to work too soon after the initial incident.

Lessons Learned: Ensure that all crewmembers receive training and guidance to prevent and protect against slip, trip, and fall incidents. Provide individual instruction to those newly assigned who may lack experience at sea. In addition, employees are reminded to report all incidents in a timely manner and to take enough time-off to fully recover from an injury.

Description: A cook aboard ship was cutting food in the galley preparing a meal at sea. Sudden pitching motion of the ship in heavy seas caused the cook to brace with both hands against the edge of the work surface. During the motion to brace against the ship's movement, the cook's knife came in contact with his opposite hand causing a laceration that required first aid.

Casual Factors: A combination of ship's motion and bodily motion was the primary cause of the incident. Contributing factors included improper positioning of hands relative to the work surface and a failure to take necessary precautions, for example, the use of cut-resistant gloves.

Lessons Learned: Always maintain awareness of your body positioning relative to your surroundings and any tools or equipment you may be handling, especially with when working in a hazardous environment. Anticipate changing conditions. Use personal protective equipment to prevent or reduce the severity of injuries especially when working under conditions that may be beyond your control.

BEST PRACTICES

In this section of the newsletter, we plan to share a best safety practice from around the organization that we have seen, or that has been brought to our attention.

The best ideas for improving safety come from the field. Do you have an idea to help prevent injuries? Please send it to the SECD Chief (omao.secd@noaa.gov) and we will plan to share it throughout OMAO.

NEWS AND NOTES

As a reminder, Marine Operations Center (MOC) Procedure 1701-06, Personal Protective Equipment, requires all hard hats to be fitted with a chin strap. The chin strap shall be used when performance of a given task may cause the hard hat to fall off or get knocked off. In addition, regarding hard hat replacement, Occupational Health & Safety magazine states, "As a general guideline, most manufacturers recommend replacing hard hats **every five years** regardless of outward appearance. If work conditions include exposure to higher temperature extremes, sunlight, or chemicals, hard hats should be replaced **after two years** of use." The magazine article can be read in its entirety at <http://ohsonline.com/Articles/2007/03/Wearing-a-Hard-Hat-is-Only-Half-the-Job.aspx?Page=1>. MOC Safety, Training, Environmental, and Management (STEM) will support replacement of ships' hard hats. Please contact Doug Smith if you have questions or if more information is needed, douglas.w.smith@noaa.gov, 757-441-6465.

The U.S. Coast Guard has issued a recall notice for Mustang Survival Personal Floatation Device (PFD) models MD2010 and MD2012, 22LB inflatable PFDs, sold in the United States during 2011. For more information about the recall, see <http://www.mustangsurvival.com/22lb-product-notice>.

The NOAA Small Boat Program recently issued an amendment to [Vessel Inspection Bulletin \(VIB\) 04-10](#) which provides requirements for the periodic testing of immersion suits aboard NOAA small boats. The amended version of the vessel inspection bulletin (VIB) is available at <http://www.sbp.noaa.gov/policy/docs/bulletins/04-10-Amendment-1.pdf>. The amendment was agreed upon during the recent Small Boat Safety Board meeting held in Slidell, LA, November 29 to December 1, 2011. The amendment contains provisions for the allowance of self-testing of immersion suits provided that the requirements of the VIB are adhered to. Specific guidance and procedures are provided within the amendment.

Copies of all VIBs are available at <http://www.sbp.noaa.gov/policy/bulletins.html>. Anyone having questions may contact the Small Boat Program Manager for assistance at sbp.manager@noaa.gov, 206-553-0258.

The NOAA Small Boat Safety Board recently approved the U.S. Army Corps of Engineer (USACE) Motorboat Operator Certification Course (MOCC) as meeting/exceeding the minimum training standard of the USCG Auxiliary Boating Skills & Seamanship course. Approval of the USACE course provides another training option for people looking to become NOAA small boat operators.

NOAA Scientific Diving Standards and Safety Manual, Revision 1, has been implemented. A copy of the Manual will be available for review via the NOAA Diving Program web site, <http://www.ndc.noaa.gov/rp.html>, after the first of the year.

TERM OF THE MONTH

Accident Rate – There are generally two OSHA recognized accident rates routinely calculated

by safety professionals. The first is associated with accidents that result in injuries requiring medical attention greater than first aid. In other words, the injury required a trip to the doctor's office or emergency room. This rate is referred to as the **Recordable Accident Rate**. The second calculated accident rate is actually a subset of the first and is associated with accidents resulting in injuries that prevent the injured employee from returning to work for their next scheduled work shift. This rate is referred to as the **Lost Time Accident Rate**.

Both rates take into account the total number of recordable accidents and lost time accidents that occur in the workplace as a function of the total number of hours worked by all employees at that workplace. As part of the calculation, for purposes of comparison from workplace to workplace and from year to year, the number of accidents per hours worked is normalized to reflect a rate expressed in terms of the number of **accidents per 100 employees per year**.

For example, a recordable accident rate of 4.2 means that for every 100 employees at a given workplace, 4.2 employees were injured seriously enough during the given year that they required professional medical attention. Similarly, a lost time accident rate of 2.5 means that for every 100 employees at the workplace, 2.5 employees were injured seriously enough during the given year that they were unable to return to work for their next scheduled shift. To take it a step further, if the workplace in the given example employs 1000 persons (i.e., 10 times 100 employees), 42 employees (i.e., 10 times the rate of 4.2) had recordable accidents and 25 employees (10 times the rate of 2.5) experienced lost time accidents during the given year.

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