Office of Marine and Aviation Operations

SAFETY NEWS

From the Safety and Environmental Compliance Division

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This month's policy spotlight focuses on supervisors' responsibilities defined in NOAA Administrative Order 209-1, NOAA Safety Policy. There are also worthwhile tips and recommendations in the news and notes section based on recent accidents and incidents.

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POLICY SPOTLIGHT

Below is an excerpt from NOAA Administrative Order (NAO) 209-1, NOAA Safety Policy, stating safety-related responsibilities for NOAA managers and employees.

.07 Managers at all levels of the organization are responsible for actively promoting and protecting the safety of NOAA employees and the public by providing safe workplaces and operations. To fulfill this responsibility, each manager is responsible for, at a minimum, the following:

a. a. Ensure that employees are provided appropriate safety training in compliance with the NOAA standards.

b. First-line managers shall conduct safety assessments at least monthly (or more often as warranted by type of work or workplace conditions) and prepare safety assessment reports. Safety assessment reports shall document safety rule violations, unsafe acts, and unsafe conditions; and shall document corrective actions to be taken and responsible parties. Managers shall request technical assistance from their respective office safety manager in assessing unsafe conditions beyond the manager's ability (e.g., ventilation surveys of laboratory hoods, industrial hygiene surveys to measure employee exposures to chemicals and noise). Managers retain the responsibility for ensuring assessments are completed and for addressing corrective actions.

c. Second-level managers shall review safety assessment reports and take appropriate

measures (including, as warranted follow-up assessments) to ensure that violations and unsafe conditions/acts have been appropriately addressed.

d. Managers shall report all safety incidents within 24 hours to the management level responsible for conducting the incident investigation (see the Exhibit to this Order) and to the Director of [NOAA Safety and Environmental Compliance Office]; and shall cooperate in the investigation of incidents. Serious accidents shall be reported as soon as possible, but no later than eight working hours of incident occurrence.

e. Managers shall actively discuss safety concerns and the importance of safety in the workplace with employees.

.08 Employees are a critical component of an effective NOAA Safety Program.

a. Each employee has the following responsibilities:

1. Comply with established safety rules and policies, including the attendance at required safety training.

2. Promptly report all unsafe conditions and safety incidents to their immediate supervisor. Immediately correct unsafe conditions and unsafe acts that are under their control. Submit a CD-351 when time permits to control the risk.

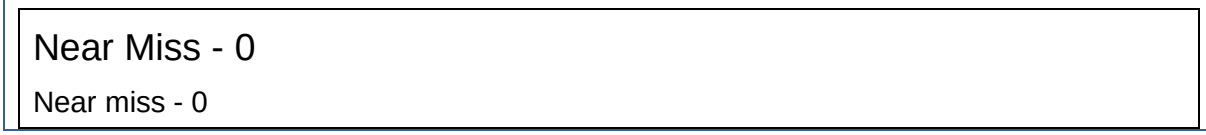
3. Perform their work in such a manner as not to jeopardize the safety and health of themselves, fellow workers, or the public. Following safe procedures is a condition of employment for all employees.

b. Employees have the right to decline to perform their assigned task because of a reasonable belief that the task or situation poses an imminent risk of death or serious bodily harm, and that there is insufficient time to reduce the risk through normal hazard reporting and abatement procedures. If time permits, employees shall report the situation to their supervisor to control the risk (e.g., submitting a CD-351). Employees may not decline to perform a task that is part of their normal duties. Normal duties include hazardous duty assumed by employees as part of their employment position, and for which an employee is receiving hazardous duty pay or other benefits consistent with the terms of NOAA's Premium Pay Handbook or for whom hazardous duty was considered in the classification of their position. The employee's right to decline a task shall not take precedence over an aircraft commander's or ship captain's ultimate responsibility to make command decisions to protect the safety of the crew and aircraft or vessel while underway, in response to an emergency, or in the performance of normal duties.

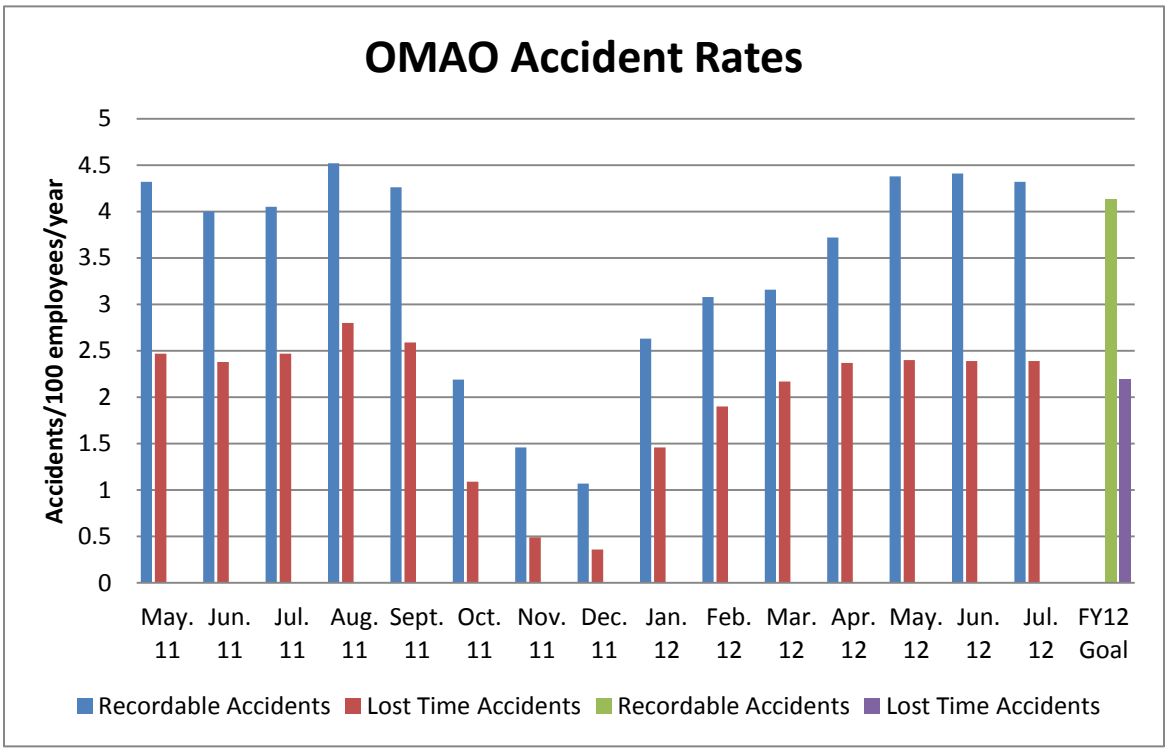
The NAO in its entirety is available at http://www.corporateservices.noaa.gov/ames/administrative_orders/chapter_209/209-1.html.

ACCIDENT STATISTICS

The total number of OMAO near miss; minor/first aid; medical treatment; lost time/light duty; and other incidents reported during August 2012 is listed in the table below. Accident rates over the past 15 months are shown on the bar graph that follows.



Minor/First Aid - 4 Contact with - 1 Laceration - 2
Medical Treatment - 2 Contact with - 1 Bodily motion - 1
Lost Time/Restricted Duty - 2 Exertion - 1 Bodily motion - 1
Other - 1 Environmental - 1



OMAO Annual Accident Rates*

	FY11 Total	FY12 YTD	FY12 Goal
Recordable Accident Rate	4.26	4.32	4.13
Lost Time Accident Rate	2.59	2.39	2.19

*Accident rates are calculated based on the total number of recordable and lost time accidents that occur in the workplace compared to the total number of hours worked by all employees at that workplace. The accident rate represents the number of accidents that have occurred per 100 employees for the year.

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: While moving an equipment cabinet through the engine room aboard a NOAA ship, with three other persons, a crewmember sustained a shoulder injury resulting in lost time. Relocation of the cabinet required it to be lifted and supported at shoulder-height. The ship was at sea when the work was being done. Conditions were flat calm. It was not stated in the accident report whether or not equipment and tools were removed from the cabinet prior to moving it. **Causal Factors**: Although four persons were used to move the cabinet, and it was moved during calm conditions, it proved to be too heavy to be moved safely by hand. **Lessons Learned**: Using teamwork, in this case four persons, to move an object usually provides an advantage, however, reducing the weight of any heavy object that is being moved should also be considered. Ultimately, devices that provide a mechanical advantage should be used when moving objects that are likely to result in over exertion and strains if moved by hand.	**Description**: While donning a survival suit during an abandon ship drill, a crewmember aboard a NOAA ship sustained a back injury that resulted in a lost time accident. The accident report contained conflicting information regarding whether the crewmember was standing or seated when donning the suit. **Causal Factors**: It is believed the injury was caused by an aggravated twisting motion of the lower back while donning the survival suit. **Lessons Learned**: Follow proper procedures when putting on survival gear. Survival suits should be donned from a seated position. Exercise caution based on your physical capabilities when bodily motion is required to perform a given task.

Description: A recently-hired crewmember aboard a NOAA ship was using a portable power tool to do deck equipment preservation work. The area being worked on was an irregular structure and required the work to be done at different angles and heights. The wire wheel of the power tool slipped off the structure and made contact with the crewmember's arm causing an abrasion that required first aid. **Causal Factors**: Based on information in the accident repot, inexperience doing this type of work with this type of tool under this set of circumstances was most likely the primary cause of this incident. **Lessons Learned**: Make sure on-the-job training is being conducted. Don't assume an individual knows the hazards of a job even if you think the hazards should be apparent. Pass to those less experienced what you have learned about job hazards and how to reduce or mitigate them, especially if they have become second nature to you. At worst, the information you share will serve as a reminder. In this case, working on an irregular structure introduced hazards unlike those associated with working on a flat continuous surface. In addition, wearing a heavy shirt with long sleeves should be considered when doing this type of work to reduce the severity of potential injury.	**Description**: A crewmember aboard a NOAA ship was disconnecting a hose connection on a chill water system. While loosening the connection, ethylene glycol coolant sprayed from the hose into the crewmember's eyes and mouth. The crewmember was taken to a local emergency room for evaluation and treatment and was subsequently found fit for duty and released. An incident investigation revealed that valves to the system were tagged out, however, head pressure in the system was not bled off. **Causal Factors**: Primary cause was an attempt to disconnect system piping while the piping was still under pressure. The incident investigation report stated the pressure gauges for the system should have been double checked before attempting to disconnect the line. **Lessons Learned**: Understand that lock-out tag-out procedures are not solely about securing valves, circuit breakers, and the like, but are also and ultimately about removing and controlling stored energy and potential energy. Don't assume a system is safe to work on until valves, gauges, and other available means are used, and double checked, to ensure all stored energy has been bled off, drained from, or has otherwise been evacuated from the system. In this case, the ship planned to conduct a safety stand-down to discuss the incident and lessons learned. Crewmembers were advised to immediately voice their concerns and involve higher levels of ship management if doubts persist about how to safely accomplish a task.

OMAO Safety and Environmental Compliance Division regularly posts Accident Investigation and Lessons Learned on the following web site:
http://www.omao.noaa.gov/accident_investigations_lessons_learned/index.html

BEST PRACTICES

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

Ship of the Quarter Safety Award – Scoring for the next Ship of the Quarter Safety Award ends September 30, 2012. Please remember to submit reports of proactive safety activities to Safeship.moc@noaa.gov. For more information about the award, please refer to safety procedures document 1701-23, Proactive Safety Improvement Award – Ship of the Quarter. The document is available via the OMAO Document Management System on the inside OMAO website, http://10.49.29.4/WebDesktop/Binders.aspx.

Accident and Incident Reporting – Accident reporting via the MOC-137 or the NOAA on-line system requires a description of the accident, identification of causal factors, and corrective actions taken to prevent reoccurrence of the accident. The key to good reporting is to conduct a thorough investigation. As a minimum, ensure the accident report clearly identifies what happened, when, where, why, and how. Review the language in the report to ensure the information is accurate, clearly stated, and can be understood by someone not involved in the accident. Clarify ambiguities before submitting the report. Consider including photographs as part of the accident report to supplement and clarify what is written.

Proactive vs. Reactive Safety Activities – Holding a safety stand-down after an incident may be an appropriate means to implement corrective actions and share lessons learned. However, in the future after an accident occurs, also consider what could have been done prior to the accident to prevent it from occurring in the first place. Commit to performing an increased number of proactive activities, such as operational risk assessments, stand-up safety meetings, and on-the-job-training, and as a result, the need to conduct reactive activities will be reduced.

Nitrile Gloves vs. Latex Gloves – For tasks that require the use of disposable gloves, it is recommended that nitrile gloves be used instead of latex gloves. Based on information from OSHA, EPA, and those who have used both latex gloves and nitrile gloves in various fields, nitrile gloves are more durable, more puncture resistant, are able to withstand higher temperatures, and are less likely to dissolve or deteriorate when coming in contact with organic compounds and solvents. Use of nitrile gloves also prevent potential problems associated with latex allergies. For more information, see http://www.glovenation.com/nitrile-gloves/why-use-nitrile-gloves.htm.

Emergency Drills – There is a phrase common in all sports that states, “You play like you practice.” The same can be said of emergency drills. Take them seriously. They may save your life and the lives of those around you. Follow procedures. They are in place for a reason. Consider contingencies and spend time thinking about how you are likely to react, and what you will do if faced with a real life situation.

FEMA Training – For those interested in, or involved in emergency management and continuity of operations, excellent training is available on-line from the Federal Emergency Management Agency (FEMA). Training appropriate to all levels of responsibility is offered. The training is free of charge. It is available via http://www.fema.gov/training-1#.UEDqLdvDnLk.email.

TERM OF THE MONTH

Human Error – Human performance can be affected by many factors such as age, state of mind, physical health, attitude, emotions, and individual tendency for certain common mistakes, errors and cognitive biases. Human error has been cited as a cause, or contributing factor, in disasters and accidents in industries as diverse as nuclear power (e.g., Three Mile Island accident), aviation, space exploration (e.g., Space Shuttle Challenger Disaster), and medicine. Human error is firmly entrenched in classic approaches to accident investigation and risk management, although newer studies are focusing on variability in human performance which may cause both negative as well as positive outcomes. Human error and human performance can be attributed to an individual as well as to an organization. Organizational influences on safety and human error include those related to resource management (e.g., inadequate human or financial resources), organizational climate (organizational structure, policies, and culture), and organizational processes (such as procedures, schedules, and oversight, or lack thereof).

COMMON INTERESTS

Below is an article from *Human Factors Industry News* regarding a phenomenon termed lack of motion induced blindness. It is hoped knowledge of this may improve situational awareness as well as provide tips on how best to maintain attention to given tasks that are visually intensive. The link at the end of the article demonstrates quite dramatically how objects seem to "disappear" when one's focus is maintained entirely on a single object.

Lack of Motion Induced Blindness (pilots and drivers too)

Lack of motion induced blindness was presented as a flying issue, but one can also miss things (pedestrians, motorcycles, other cars) while driving, so, keep your heads and eyes moving. The below link is a great illustration of what was taught about scanning outside the cockpit when military pilots went through training. Shipboard lookouts were also given the same training. They were told to scan the horizon for a short distance, stop momentarily, and repeat the process.

This was the most effective technique to locate other ships and aircraft. It was emphasized repeatedly to not fix one's gaze for more than a couple of seconds on any single object. The instructors, some of whom were combat veterans with years of experience, instructed pilots to continually "keep your eyes moving and head on a swivel" because this was the best way to survive, not only in combat, but from peacetime hazards (like a midair collision) as well.

The most dangerous target is the one that has NO apparent motion. This is the one you will hit without evasive action and also the one you will NOT see – as presented below.

http://www.msf-usa.org/motion.html

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Safety . . . our mission depends on it