

# Office of Marine and Aviation Operations

# SAFETY NEWS

*From the Safety and Environmental Compliance Division*

FOURTH EDITION

FEBRUARY 2012

This month's focus is safety culture. Rear Admiral Bailey has always emphasized the importance of safety in all we do as evidenced by naming safety as one of his four organizational pillars shortly after taking over as Director. In support of that pillar, we have recently created a Ship of the Quarter Safety Award program. Information about the award program and an update on how well ships are doing can be found in this month's policy section. As seen in the statistics section, although our accident rates increased during the month of January, we have experienced relatively few accidents during February, and our accident rates to-date are still within annual goals. Everyone is asked to keep up the good work and to remain diligent to prevent accidents.

## CONTENTS

POLICY SPOTLIGHT .....	1
COMMON INTERESTS .....	3
ACCIDENT STATISTICS.....	3
RECENT INCIDENTS: CAUSES AND LESSONS LEARNED.....	5
BEST PRACTICES .....	6
NEWS AND NOTES .....	7
TERM OF THE MONTH .....	8
SAFETY STAFF.....	9

## POLICY SPOTLIGHT

On February 6, 2012, Rear Admiral Devany issued a new 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>.

The purpose of the Ship of the Quarter Award is to improve the safety culture of NOAA ship operations by rewarding the little things that improve overall safety and move safety awareness into the forefront of our ship-board operations. The scoring criteria for the award is not focused on material condition of the ship, preventative maintenance, environmental stewardship, or hands-off (classroom or on-line) safety training. It is focused on the practical hands-on things that we can do to improve the safety of operations such as self-directed safety inspections; identification and correction of safety hazards; increased near-miss reporting; hands-on safety training and drills; assessing and mitigating risk before conducting new operations; and stopping unsafe operations to correct potential problems that could lead to injury or loss.

Ships are awarded points during the quarter for various proactive safety improvement activities

such as reporting near misses; correcting and reporting self-discovered safety hazards; conducting operational risk assessments; conducting hands-on safety training, safety stand-downs, and safety drills beyond what is minimally required; sharing best practices; and rewarding employees for positive safety-related behavior. Points are also awarded based on the number of days since the ship last experienced a lost time accident. Ships are reminded to submit safety accomplishments to [SafeShip.moc@noaa.gov](mailto:SafeShip.moc@noaa.gov).

The ship scoring the most points for the fiscal year quarter, and not otherwise disqualified from winning the award based on predefined factors, will be granted a time off award (leave/liberty) for each member of the crew to be used in accordance with ship command policies.

As of February, 29, 2012, scoring among all ships in the fleet is very close. There is no clear leader. The scoring for this quarter ends March 31, 2012.

<b>OMAO Proactive Safety Improvement Award Scoring Criteria and Reporting Method</b>			
<b>Points Awarded</b>	<b>Criteria</b>	<b>Ship Reporting Method</b>	<b>HQ Data Compilation Method</b>
3	90 days or more since the last lost time incident		STEM* will calculate
2	Near-Miss Report Submitted	Email MOC.Fleet.Accidents@noaa.gov	
2	Each Safety Hazard found and self-corrected by ship's crew (not in conjunction with required command or fleet inspection). Examples - adding padding to sharp corners; repairing worn non-slip surfaces; improve marking of equipment for safety purposes, etc.	Email SafeShip.moc@noaa.gov	
2	Operational Risk Management (ORM) report submitted. In conjunction with, or independent of the completion of Ship Specific Instructions	Email SafeShip.moc@noaa.gov	
2	Safety drill/stand-down conducted outside of required drills or drills in conjunction with fleet inspection	Email MOC.Safetystand-down@noaa.gov	
2	Submission of 'Best Practices' to improve fleet-wide safety which are then included in a published monthly OMAO Safety Newsletter	Email OMAO.SECD@noaa.gov	
2	60-89 days since the last lost time incident		STEM will calculate
1	30 - 59 days since the last lost time incident		STEM will calculate
1	Safety 'on-the-spot' award given to a ship crew member to immediately reward a safe act	Email SafeShip.moc@noaa.gov	
1	Hands-On Safety training conducted onboard for individual employees in addition to safety stand-downs ( 1 point for each employee trained)	Email SafeShip.moc@noaa.gov	

1	Stop/suspend operations to correct an identified safety hazard (in addition to near-miss reporting)	Email SafeShip.moc@noaa.gov	
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\*STEM – Safety, Training, and Environmental Management

## COMMON INTERESTS

Below is a slide taken from a presentation by Larry Wilson of Electrolab Corporation, titled “Unlocking the Code to Human Error” describing the basic principal of the company’s very successful SafeStart safety program. The slide serves as a reminder of the importance that awareness plays in preventing accidents.

SafeStart Unit #1—Introduction & Overview

# Accidental injuries that happen to all of us (and our friends & families)



*These four states...*

- Rushing
- Frustration
- Fatigue
- Complacency

*can cause or contribute to these critical errors ...*

- Eyes not on Task
- Mind not on Task
- Line-of-Fire
- Balance/Traction/Grip

*...which increase the risk of injury.*

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1. Banging your shin
2. Stubbing your toe
3. Dropping something on your foot
4. Slipping, Tripping, Falling
5. Not seeing a stop sign or a red light
6. Falling asleep at the wheel (or almost)
7. Turning or bumping into something (standing up and banging head)
8. Hitting hand with hammer
9. Cutting yourself with a knife, scissors or razor
10. Burning hand, arm, wrist, etc.
11. Spraining ankle, knee, wrist or thumb
12. Straining back, neck, shoulder, etc.
13. Falling into or onto something hard or sharp


70

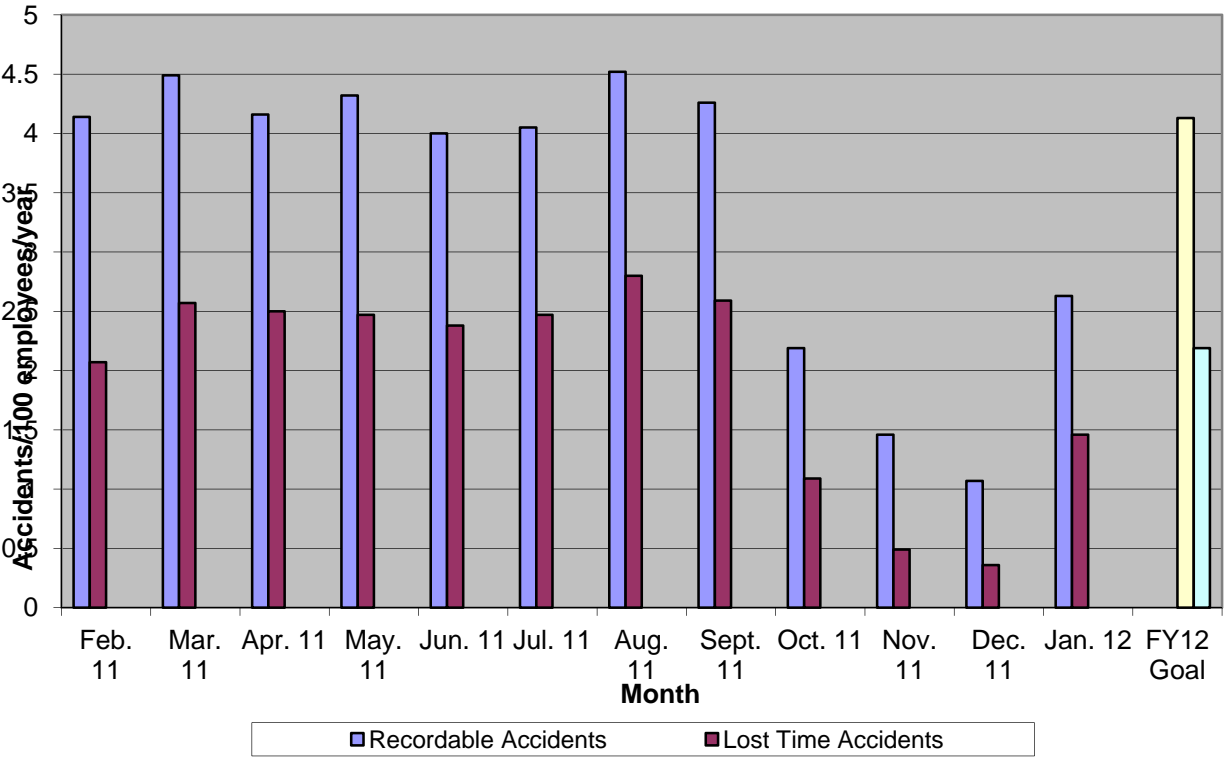
## ACCIDENT STATISTICS

The total number of OMAO near miss, minor/first aid, medical treatment, lost time, and environmental incidents reported in February 2012 is listed in the table below. A bar chart showing monthly recordable and lost time accident rates follows.

Near Miss – 0
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None reported
Minor/First Aid – 0
None
Medical Treatment (no lost time) – 1
Fall, slip, trip - 1
Lost Time – 1
Contact with - 1
Environmental – 1
Oil spill non-injury - 1
Other - 2
Car accident (non-injury) - 1
Fire (non-injury) - 1

**OMAO Accident Rates**



	FY11 Total	FY12 YTD	FY12 Goal
Recordable Accident Rate	4.26	2.63	4.13
Lost Time Accident Rate	2.59	1.46	2.19

## 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:** An exterior 110 volt marine electrical outlet on the bow of a NOAA ship started arcing and sparking, and then caught the outlet housing on fire. The ship's alarm was sounded. All hands mustered. The firefighting fast attack team put out the fire with portable CO2, and by securing power to the circuit - all in about five minutes. Fire boundaries were checked to confirm the fire was isolated to the single location. No injuries and no significant damage were sustained.

**Casual Factors:** The primary cause of the incident was water penetration into the marine electrical outlet creating a short circuit. Heavy seas were breaking and spraying seawater on the bow. The incident investigation revealed that the protective screw cap cover for the outlet had been left unsecured which allowed sea water direct access to the live outlet.

**Lessons Learned:** Prompt and correct actions by the ship prevented this from becoming a potentially catastrophic event. Fire can break out in unexpected locations at unexpected times. Always be prepared by reviewing and updating emergency response plans and by conducting emergency training and drills. Look for fire hazards and take action to correct them and prevent them. Properly utilize installed safety devices on all equipment. When making shipboard rounds, check marine outlets and ensure covers are screwed on and in-place.

**Description:** A shipboard employee was injured while attempting to open a jammed stateroom door on the ship. The door hinges had become loose, and the steel door had settled into the jamb. A fellow crewmember was in the stateroom at the time and unable to get out of the room. In an effort to open the jammed stateroom door, the employee wedged a crow bar between the door and the frame, and attempted to open the door by forcing his weight against it and kicking the door. As a result, the employee suffered a knee injury requiring medical attention and time away from work.

**Casual Factors:** The jammed door, and using improper means to open the door, was the primary causal factor in this incident. In addition it was discovered after the incident that the employee had a pre-existing knee condition and was receiving treatment from his personal physician.

**Lessons Learned:** Look for signs that indicate potential problems with heavy steel doors, especially aboard older vessels, such as sticking or rubbing, reduced range of motion, and hitches in motion during opening and closing. Be cognizant of and correct potential maintenance issues before they become too difficult to correct. Be cognizant of your own physical limitations and adjust your actions accordingly. Seek assistance from other employees and use various mechanical means to gain an advantage during jobs that require physical exertion.

**Description:** Work was being done on an electrical circuit in a power panel aboard ship. Power had been secured to the circuit. While working on the circuit, electrical current apparently arced from a nearby circuit to a metal screwdriver being used by the person working in the panel. It caused a small flash and an electrical arc that did not result in any injuries, however, the arc was significant enough to cause a spike in electrical current large enough to trip the ship's shore power breaker.

**Causal Factors:** The primary cause of this incident is likely improper interpretation, or improper implementation, of lock-out/tag-out procedures. The incident investigation discovered that there are two independent power sources to the electrical panel. One power source needs to be de-energized to access the panel; however the second power source does not need to be secured to access the panel. The person working on the circuit believed work could be done safely in the panel because power had been secured to the circuit on which the work was being performed. Additional causal factors in this incident may include poor electrical maintenance practices. The electrical arc was likely caused by the live circuit in the vicinity of the one on which work was being performed. It is not clear what caused the electricity to arc from the live circuit to the non-live circuit. Potential causes of the arcing are reflected in the lessons learned below.

**Lessons Learned:** Ensure all power sources that may impact work that is being performed are secured in accordance with ship specific lock-out/tag-out procedures. Ensure electrical connections remain tight and insulation on wiring is intact on all circuits. Ensure all electrical grounds are promptly traced and eliminated.

**Description:** In support of work being done in the shipyard, shipboard engineering personnel were tasked with locking out the electrical supply to an air handler unit (AHU) in order to replace a chilled water solenoid valve. The lock was placed on the AHU controller-disconnect. Prior to electrically disconnecting the solenoid, shipyard personnel reported that the solenoid coil was very warm, indicating that power was possibly still on to the solenoid. The ship's chief engineer ordered all work to stop until it could be determined whether or not power was live to the solenoid. During the investigation and troubleshooting that followed, it was determined that the AHU was fed from three different power sources including a separate feed for the solenoid coil. All power sources were properly locked out and work resumed without incident.

**Casual Factors:** This was a near miss incident that could have resulted in serious injury or death. Failure to lock out all power sources was the primary cause of the near miss. Failure to fully implement lock-out/tag-out procedures was a contributing factor. Prompt and decisive actions by experienced engineering personnel prevented this from becoming a serious incident.

**Lessons Learned:** Ensure ship specific lock-out/tag-out procedures are developed and implemented in accordance with OMAO 1701-05, Lockout/Tagout, and applicable regulations 29 CFR 1910.147(c)(4)(i). Routinely review and conduct safety stand downs regarding lock-out/tag-out procedures as needed. Ensure electrical power circuits are properly traced and labeled. Take nothing for granted regarding the status of power sources.

## BEST PRACTICES

Below is a series of questions associated with the management of Shipboard Damage Control (DC) Lockers compiled by the fleet inspection team that when answered in the positive represent best practices found throughout the fleet.

- Does the DC Locker's inventory list actually match the items and quantities stored?
- Do the items listed on the inventory have a space or shelf location number, and are those items stored at that location?
- Does the ship have electrical kits, plugging kits, etc., stored in the ready to use condition? For example, for the jubilee patch kit, does the kit contain the proper size patches for the type piping found on the ship, and does it have the proper wrenches in the kit to apply these patches?
- Does the location of the locker make sense? For example, you wouldn't want your pipe and plug kits stored in a DC Locker located on the House Top. You would want it closer to where you would most likely be using it.
- Is the DC equipment being exercised?
- Do the individuals required to work from these lockers have training on how to use the equipment?
- How often are the lockers being inventoried? Taking inventory on a regular basis is necessary to prevent people from removing items for everyday use.
- Is everything in the lockers stored in a ready-to-use condition?
- Are heavy items safely stored on lower shelves or at the bottom of the locker?
- For ships having more than one locker, does each locker have lists of what can be found in the other lockers?
- For all items not stored in the locker(s) does the inventory list indicate the item's location, and is there suitable signage at that location?
- Are the locations of the lockers adequately distanced from one another, and not for example one deck above each other?

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

**AOC Safety Pro of the Quarter** – During the Aircraft Operations Center (AOC) January Safety Council Meeting, Jim Warnecke was voted the AOC Safety Pro for the 4<sup>th</sup> Quarter 2011.

The following is the narrative from his nomination:

"In preparation for the Dynamo Deployment on N43RF, Jim was tasked with replacing one of the science systems 60hz converters. After the installation Jim performed a tool and F.O.D. inspection in the area he was working. During this inspection Jim found two large cracks, one in the aircraft skin directly above the lower fuselage radome, and the other in the structure that supports the raising and lowering of the radome. Had these cracks gone unnoticed the upcoming deployment and crewmember safety would both be in danger. Thanks to Jim's



diligent inspection and the identification of these cracks, there was sufficient time prior to the deployment departure date to complete a repair and ensure crewmember safety. "

Winners of the AOC Safety Pro of the Quarter award have the option of receiving a \$500 cash-in-your-account award or a 16-hour time-off award.

Congratulations Jim!

**Near Miss Reporting** – Kudos to NOAA Ships *Delaware II*, *Thomas Jefferson*, and *Fairweather* for recently reporting near miss incidents that occurred during the latter part of January and non-injury incidents that occurred in February that would have gone un-noticed if left un-reported. Your example serves as a reminder to us all that the key to preventing future injuries is recognizing and reporting those incidents in which an injury did not occur, but for a fortunate break or a fortunate turn of events. The lessons learned from reporting your near miss may end up saving a life.

**Prohibition on the Use of Ball Chairs** – Based on research conducted by safety and ergonomic professionals, employees are advised that ball chairs, also known as Yoga Balls or Fitness Balls, are not authorized for use by OMAO employees as office chairs.

**Accident Investigation Reports** – Publically releasable versions of OMAO accident investigation reports and lessons learned, along with past issues of the OMAO Safety Newsletter, are now available via a link on the OMAO homepage <http://www.oma.noaa.gov/>.

**Corrective Actions** – Many accident and incident reports include details regarding immediate actions taken to treat the injured employee or actions taken to mitigate the situation in response to a particular incident. Although this information is important as it relates to a thorough description of the accident or incident, it is not a substitute for requirements to identify corrective actions that have been taken, or will be taken, to prevent a similar accident or incident from occurring in the future. When filling out accident and incident reports, supervisors are reminded to include in the corrective action section of the report, those actions that have been taken, or will be taken, to prevent a similar accident or incident from occurring in the future.

**Closing Out Lost-time Accidents** – OSHA requires employers to track on an annual basis the total number of days employees have been out of work due to a workplace injury or illness. Supervisors are reminded to close-out all accident reports involving lost time injuries by specifying the date on which an injured employee returned to work and reporting that information to the safety staff at your respective centers.

## TERM OF THE MONTH

**Safety Culture:** Safety culture is defined as the enduring value and prioritization of worker safety by each member of each group and in every level of an organization giving attention to issues relative to their significance. It refers to the extent to which individuals and groups will commit to personal responsibility for safety; act to preserve, enhance and communicate safety concerns; strive to actively learn, adapt and modify behavior (both individual and organizational) based on lessons learned from mistakes; and strive to be honored in association with these values. It is important to remember that an organization's culture develops over a period of time and cannot be created instantly. The safety culture of an organization develops as a result of history, work environment, health and safety practices, the workforce, and management leadership.



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*Safety . . . our mission depends on it*