U.S. COAST GUARD

PREVENTION

SAFETY ALERTS
1996-2014

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

November 12, 2014
Washington, DC

Safety Alert 15-14

ACCIDENTAL RELEASE OF CO_2 SYSTEM!

IMPORTANCE OF DESIGN AND TESTING OF EMERGENCY SYSTEM CONTROLS

This safety alert serves to remind shoreside and vessel personnel of the importance of 1) designing and maintaining emergency systems to be logical and easily operated in high stress situations, 2) maintaining a high level of crew familiarity with emergency systems, and 3) exercising safeguards during testing to mitigate the risk of human error or system malfunction. Although regulations prescribe standards for safety systems aboard vessels, installations particularly those onboard uninspected vessels, can vary dramatically.

During a recent Uninspected Towing Vessel (UTV) exam, a vessel crewmember intending to test the fuel oil shut-off cables instead pulled the CO_2 system release cables. As seen in photos directly below and at the end of this safety alert, the emergency control panel used during the incident contained pull cables for both the CO_2 system and fuel oil shut-offs.

Accidental releases are not uncommon and vessel crewmember and Coast Guard inspector fatalities have occurred in the past. Fortunately, in this instance the audible alarm system and release time delay functioned as intended, allowing all personnel to safely evacuate the machinery spaces prior to discharge.

Poor design characteristics:

Similar activation pulls were collocated for fuel and CO_2 systems. Fuel oil shut down signage was located on the left, but fuel oil pulls were located on the far right with three CO_2 pulls in between.

In a separate recent UTV examination, an inspector found two sets of remote emergency shutdowns with only one set operational. The original station (see image on the right) appears to be fully operational, but was not connected. The operational shutdowns were at a separate location.

Crew interactions with emergency systems often occur during periods of increased stress (e.g., a compliance exam, drill, or an actual emergency). System design, proper human engineering, labeling, and detailed training will substantially reduce the risk of human error.

The Coast Guard **recommends** conducting a comprehensive pre-test meeting and simulated step-by-step "walk-through" between involved parties prior to actual testing of complex or potentially confusing systems. Operational controls should be implemented to maximize safety and reduce risk.

Furthermore, the Coast Guard **strongly reminds** all maritime operators of the importance in performing regular vessel specific emergency drills and to ensure that all crewmembers have the proper knowledge, skills, and abilities to respond to any potential emergency.

UTV regulations in 46 Code of Federal Regulations (CFR) 27.209 require all crewmembers to be familiar with the location and operation of engine room fuel-shutoffs and fire extinguishing equipment. All credentialed mariners are required by 46 CFR 15.405 to be familiar with firefighting and lifesaving equipment. Additionally, Coast Guard guidance on CO_2 system safety and is available at: http://www.uscg.mil/hq/cg5/nvic/2000s.asp#2000 .

Remember:

- Emergency systems should be designed with human factors in mind - logically understood and easily operated during high stress situations.
- System training will provide the familiarity needed during an emergency.
- Pre-test coordination and review of procedures will minimize accidental and potentially fatal discharges.

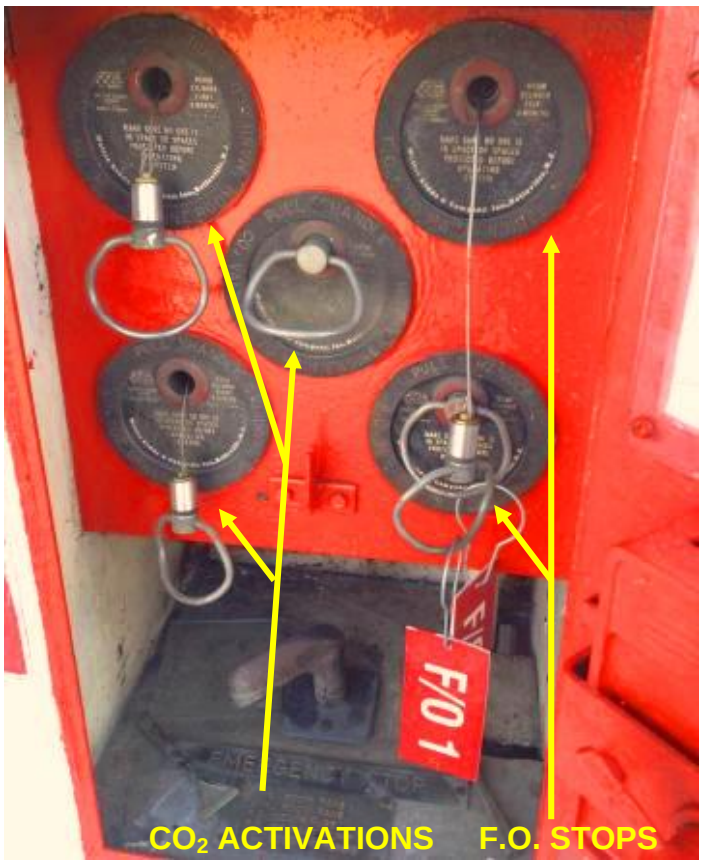
This safety alert is provided for informational purpose only and does not relieve any domestic or international safety, operational or material requirements. It was developed by the Coast Guard Towing Vessel Center of Expertise and Office of Investigations and Casualty Analysis. For questions or concerns please visit the Towing Vessel National Center of Expertise web site (www.uscg.mil/TVNCOE) and click on the "About Us" tab under TVNCOE Home for contact information or send an e-mail to the Office of Investigations and Casualty Analysis at: hqs-pf-fldr-cg-inv@uscg.mil.

CO_2 pulls:

To main engine manifold - Top Left
To main engine room - Center
To generator room manifold - Bottom Left

Fuel Oil valve stops:

To main engines - Top Right
To generators - Bottom Right



UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

November 10, 2014
Washington, DC

Safety Alert 14-14

DESIGNED FOR A REASON – HULL MAGNETS

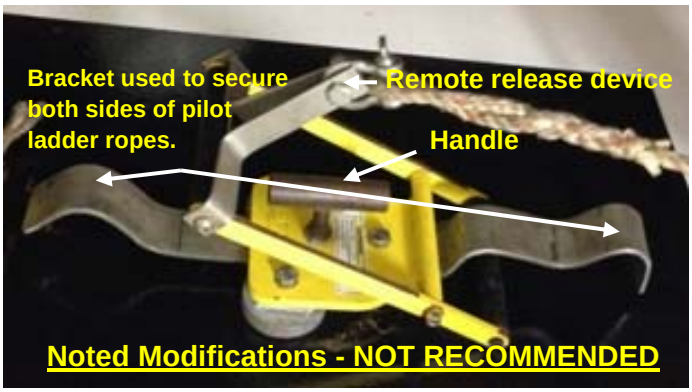
MODIFICATIONS MADE TO PILOT LADDER MAGNETIC SECURING DEVICES LEAD TO ACCIDENTS

This alert raises awareness as to the importance of not modifying equipment or components from their intended design or operation. Recently, a State Pilot suffered a concussion as he was boarding a vessel via its pilot ladder. The primary cause of the accident was an improperly modified embarkation ladder hull magnet that disconnected from the ship's hull and struck the Pilot on the head.

PROPER USE OF HULL MAGNETS

Unfortunately, this was not an isolated incident. Additional incidents with injuries have occurred on other vessels at several different ports. In each of those instances the hull magnets were modified prior to the accident. Moreover, in all cases, after restoring the hull magnets to their original design no further problems were experienced.

Hull magnets are easy to operate devices and when positioned correctly, provide substantial holding force. The handle of the magnet is also a lever and enables easy release from the hull of the vessel. The intended proper use of the magnets is shown in the above image. In the incidents where the magnets unexpectedly detached from the hull, only one securing magnet was used between the rails of the ladder along with equipment alterations that deviated from the manufacturer's design (see image below).



Noted Modifications - NOT RECOMMENDED

The Coast Guard **strongly recommends** that vessel owners/operators refrain from modifying embarkation equipment. In addition, operators should regularly inspect existing vessel boarding equipment and return improper modifications back to the manufacturer's original design. Pilots are encouraged to consult with their appropriate associations to determine if any additional precautions should be taken as part of their normal boarding practices and this identified risk.

This Safety Alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirements. It was developed by the Washington State Pilots Association, Coast Guard Sector Puget Sound and the Office of Investigations and Casualty Analysis, Washington DC. For questions or concerns, please email hqs-pf-fldr-cg-inv@uscg.mil.

UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

November 3, 2014
Washington, DC

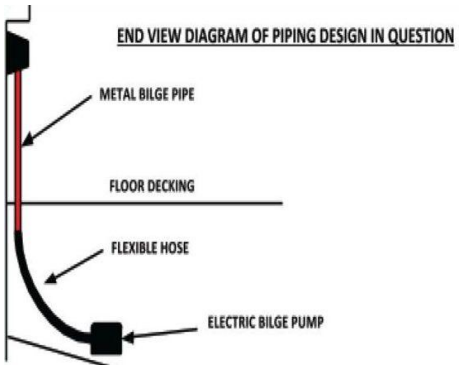
Safety Alert 13-14

WHAT YOU CAN'T SEE - CAN HURT YOU!

Corrosion of "Duck" Boat Bilge Pump Discharge Piping

During a recent Coast Guard inspection of an amphibious passenger vessel / DUKW ("duck") boat, a marine inspector discovered water back-flowing into the vessel's bilge while testing the vessel's bilge pump system. An expanded inspection of the system revealed a severely wasted and holed section of the steel bilge piping leading vertically to the overboard bilge discharge port. After inspecting the remaining fleet of six vessels, the same problem was discovered, in various degrees of severity, on four other vessels.

The failure of this piping creates an extremely unsafe condition by rendering the vessel's bilge pumping system ineffective. Because the wasted section of piping is hidden behind inner sidewalls within the passenger seating section, the problem can persist and evade detection by the vessel owner or operator.



The U.S. Coast Guard **strongly encourages** owners, operators, and other persons involved with the inspection of these types of vessels to:

- Immediately trace out and inspect the entire bilge piping system for wastage or deterioration of metal bilge piping, check the condition of all hoses, hose clamps, supports and make repairs as needed.
- Make the inspections of these concealed components part of the vessel's overall routine inspection process.
- Consider installing an access plate on the inner panel at the area of the discharge piping so that the piping is easily accessible for inspection and maintenance. (See image at right)
- Inform the appropriate Coast Guard personnel if the system piping has changed significantly or in any way that may require regulatory notification, oversight or guidance for permanent repair solutions.

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

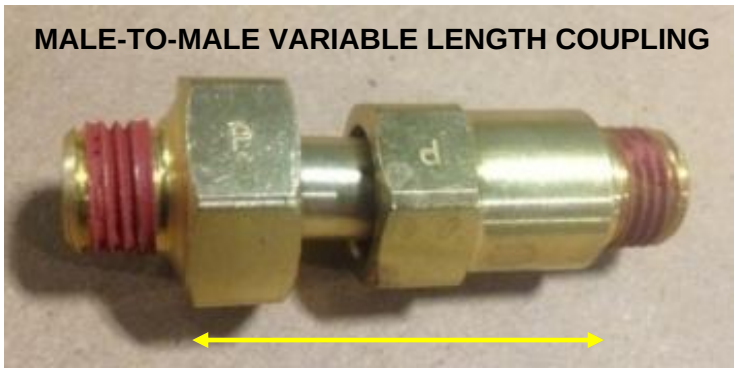
Inspections and Compliance Directorate

November 3, 2014
Washington, DC

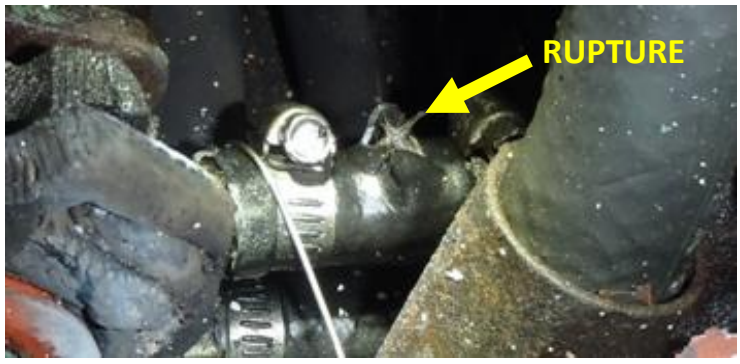
Safety Alert 12-14

DESIGNED FOR A REASON – FUEL SYSTEM MODIFICATIONS LEAD TO FIRE

This safety alert serves to raise awareness regarding the importance of using proper replacement parts and equipment in accordance with their intended purpose. Recently, a casualty occurred on a passenger vessel operating about a mile offshore in the Atlantic Ocean. A crewmember, while making a round in a machinery space, noticed that a small fuel spray fire had developed above one of the four propulsion engines. The crewmember vacated the space and informed the bridge watch. Subsequently, proper emergency procedures were followed, ventilation to the machinery space was secured, and the CO_2 via the fixed fire fighting system was released. Fortunately for the 174 persons onboard, the fire was quickly extinguished without incident or additional complications. Although the investigation is not complete, important causal factors were discovered and are shared here.



The vessel was equipped with four Detroit Diesel sixteen cylinder high speed engines - model 16V92. The engines were constructed by coupling two V-8 cylinder engines together. There are also other similarly coupled engine models and in widespread use including the Detroit Diesel 12V92, 12V71, and 16V71. Fuel and coolant flow from head-to-head and within passages on each side of the engine. The fuel supply passage delivers fuel to the injection equipment of each cylinder. A return passage handles excess fuel. To connect the heads on each side of the engine, a male-to-male threaded variable length coupling is used by design. There are four couplings per engine that handle fuel supply and returns from the injection components. These couplings are unique in that they facilitate installation by their capability to lengthen when their ends are threaded into the heads.

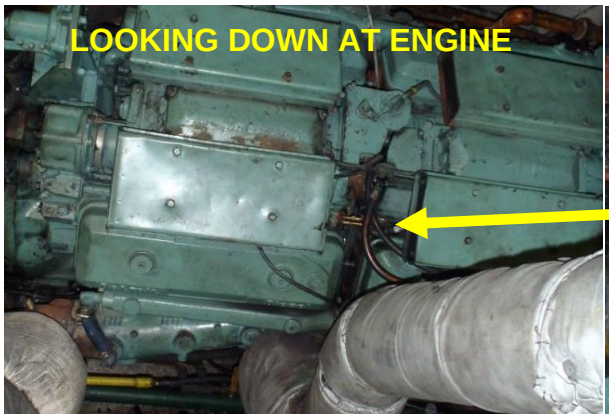


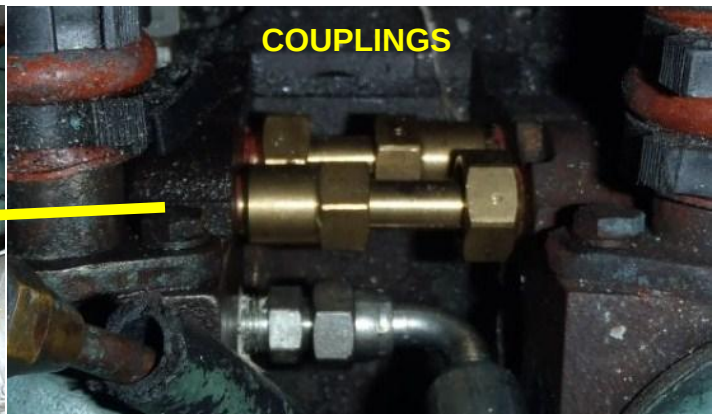
On the passenger vessel that experienced the engine room fire, couplings on three of the four engines were replaced with threaded hose barb fittings and rubber hose. One of those fuel hoses subsequently failed and sprayed fuel directly onto the main engine exhaust lagging and blankets. The seam in the insulation blanket was facing towards the engine rather than away and likely provided the ignition source.

As a result of this casualty the Coast Guard **strongly encourages** owners, operators, and marine engine rebuilders with the types of engines listed above, either as propulsion or prime movers for generators to:

- Always use proper replacement parts,
- Consider seam placement of exhaust insulation blankets and lagging during installation,
- Follow good marine practice by always maintaining the tightness and correct fit of the insulation blankets over the entire exhaust system, and
- For those who repair or own and operate vessels with these Detroit Diesel engines either as propulsion or electrical generation equipment of design configuration 16V92 ,12V92, 12V71 and 16V71, inspect and verify that the proper head to head couplings are used for the fuel supply and return passages. If incorrect, contact an authorized manufacturer technician for specific guidance.

The use of proper engine replacement parts is paramount to safety!





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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

October 9, 2014 Safety Alert 11-14

Washington, DC

BARGE FLEET LIGHTING

Within the U.S. Coast Guard Eighth District alone, marine casualty data indicates that over the past 12 years, 44 recreational vessels have struck (allided) moored barges within barge fleets, resulting in 26 fatalities and 44 injuries.


Inadequate Barge Lighting Arrangement

These serious incidents involving barges highlight the critical need for barge operators to properly display navigation lights in accordance with the Inland Navigation Rules. As with all marine casualty investigations, the Coast Guard seeks to identify the specific causal factors involved in each incident, including whether the involved barge fleets are sufficiently lit. The Coast Guard would like to take this opportunity to remind barge operators of their obligation to meet current barge lighting regulations. Furthermore, these tragic casualties are a strong warning to recreational boaters of the dangers associated with operating near and around barge fleets.

In July 2014, the Coast Guard published changes to the Inland Navigation Rules. This included amending Rule 30 “Vessels anchored, aground, and moored barges” to incorporate barge lighting requirements previously located in other regulations, including requirements for an unobstructed white light of sufficient intensity to be visible for at least 1 nautical mile.

The Coast Guard **urges owners and operators of barge fleets to complete the following actions:**

- Review fleet lighting procedures to ensure that barges are sufficiently lit and operated in accordance with the Inland Navigation Rules[1], including technical requirements as prescribed in Annex I, as well as any applicable area-specific regulations in 33 CFR Parts 162 and 165. [2]
- Ensure that barge fleets remain in compliance with permits issued by U.S. Army Corps of Engineers pursuant to 33 CFR Parts 320 through 332, and/or regional issuing authorities.

The Coast Guard also **strongly recommends that owners and operators of all vessels, including recreational vessels**, remain extra vigilant when operating boats during nighttime hours, times of reduced visibility, or when strong currents exist and when other navigational challenges posed by barge fleets are present.

This Safety Alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. It was developed by the U.S. Coast Guard Eighth Coast Guard District, New Orleans, LA. Questions may be addressed to LCDR Matt Denning, (504) 671-2152, or may be forwarded to D08-DG-District-DPI@uscg.mil.

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[1] The current version of the Navigation Rules can be found at www.navcen.uscg.gov.

[2] Current versions of the Code of Federal Regulations (CFR) can be found at www.ecfr.gov.

UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

October 9, 2014
Washington, DC

Safety Alert 10-14

PREVENTING BARGE EXPLOSIONS

Recent casualties involving explosions aboard barges conducting tank cleaning operations alongside marine terminals have resulted in serious injuries to vessel crews and facility workers, catastrophic property damage, as well as harm to the environment. A review of related casualties has revealed that vessel personnel, facility personnel and shore side managers failed to ensure that established procedures and safe practices were followed. Specifically, the Operational Manuals and regulatory requirements were not routinely followed by those involved. As a result unintended and disastrous consequences occurred.

This safety alert aims to raise awareness regarding this issue and highlight critical lessons learned from these incidents. Facility and vessel managers and operators, both ashore and afloat, responsible for the oversight of, or specifically involved in tank cleaning, stripping or gas freeing of flammable cargoes, should take note and ensure the widest distribution to all personnel.

Title 33 Code of Federal Regulations (CFR) Part 154 – **Facilities Transferring Oil or Hazardous Material in Bulk;** requires facilities to submit for approval to the Captain of the Port (COTP), an Operations Manual that provides facility details, types of cargos handled, duties/knowledge requirements of specific personnel, locations of emergency shutdowns, descriptions of tank cleaning procedures, emergency procedures, and other requirements for each type of cargo evolution, tank cleaning, and vapor control processes. For facilities that conduct tank cleaning, stripping, or gas freeing operations on tank vessels, the Operations Manual must contain a description of their procedures that are consistent with the International Safety Guide for Oil Tankers and Terminals (ISGOTT). Specific sections of the Fifth edition are referenced in 33 CFR Part 154.

The most common causal factor associated with these tank barge explosions is that the Person in Charge (PIC) of the facility and/or tank barge failed to follow key Operating Manual procedures.

As a result of these casualties the Coast Guard **strongly recommends** that facility and vessel managers, operators and PIC's performing tank cleaning, stripping, or gas freeing of flammable cargos on board any vessel review ISGOTT Fifth edition and fully comply with all related regulations and Operating Manuals while also ensuring (among many other items):

- Operations Manual is complete and meets regulatory requirements.
- Facility personnel training programs meet regulatory requirements.
- Facility PIC is designated and properly trained.
- Barge PIC holds a required valid USCG Merchant Mariner's Credential with a Tankerman-PIC endorsement.
- Barge or vessel is properly grounded by a bonding wire or other approved method prior to transfer of cargo or slops.
- Spark producing tools and machinery are removed from the involved barge or vessel and immediate vicinity.
- Portable fans or blowers used to ventilate tanks are intrinsically safe and properly grounded.
- Minimizing the operation of other vessels near the facility during tank cleaning or gas freeing operations to reduce potential vapor ignition sources.
- Operating manual procedures for dropping / draining and cleaning of cargo lines and piping and tank cleaning are strictly followed.
- During tank cleaning (washing) and gas-freeing operations, consistent with ISGOTT Ch 11.3, conduct water flushing of the tank bottom and piping systems while monitoring the Lower Flammable Limit (LEL) prior to commencing forced ventilating.
- A Certified Marine Chemist certifies tanks as "Safe for Workers," "Safe for Hotwork" before personnel enter that tank or conduct hot work.

Facility and vessel operators may submit a written request for the COTP to consider alternative procedures, methods, or equipment standards than those established within the ISGOTT or regulations. The COTP will evaluate any proposed alternative to ensure it provides an equivalent level of safety and pollution protection as required by the regulations.

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

September 9, 2014
Washington, DC

Alert 09-14

AIR DRAFT IS CRITICAL!

Air draft (draught) is a term used to describe the distance from the top of a vessel's highest point to its waterline. Vertical clearance is the distance in excess of the air draft that allows a vessel to pass safely under a bridge or object. The consequences of failing to consider air draft and to properly calculate a vessel's vertical clearance under bridges, power lines, and other obstructions encountered during a passage can be catastrophic.

Over the last eleven years, overhead bridge strikes account for 1.2% of all vessel allisions investigated by the U. S. Coast Guard. That equates to 205 incidents, all of which involved a fixed, swing, lift or draw bridge. Over the same time period there were several more incidents where vessels have allided with power cables and other types of overhead obstructions. Statistically, towing vessels and barges are the most likely to be involved in bridge strikes where air draft is a factor. Barges equipped with or that carry land based cranes not properly stowed and those fitted with mooring spuds not properly adjusted are the most commonly involved components in overhead bridge allisions. These incidents have resulted in loss of life, millions of dollars in property damage, and inconvenience to entire communities who rely on the bridges and power cables.

The primary causal factor associated with these casualties was the lack of accurate air draft data for either the towing vessel or its tow being made available to the responsible Master or Mate. Knowledge of a vessel's air draft is a critical component in determining whether a vessel can pass safely under a bridge or overhead structure.

The Navigation Safety Regulations found in 33 Code of Federal Regulations (CFR), Part 164 require the owner, master or operator of each vessel underway to ensure the following: that the person directing and controlling the movement of the vessel understands the limitations and constraints of their vessel(s) and tows, that they have knowledge of tides, currents, and dangers posed by visual or radar contacts, and that the vessel proceeds at a safe speed at all times.

Title 46 CFR 15.405 requires that each credentialed individual be familiar with the relevant characteristics of the vessel on which engaged, prior to assuming his or her duties. This includes,

among other things, the general arrangement of the vessel. The term “general arrangement of the vessel” would include such details as overall length, breadth, deepest draft and air draft for both the towing vessel and any vessel(s) being towed.

The regulations which govern drawbridge operations are found in 33 CFR Part 117. They require that drawbridges not be opened unnecessarily. Before signaling for a bridge to be opened, a vessel owner or operator must determine if the vertical clearance is sufficient, after all lowerable vessel components that are not essential to navigation have been lowered, to pass safely under the bridge in the closed position. However, once it has been determined that safe passage can only be carried out by opening the bridge; drawbridges must open promptly and fully for the passage of the vessel.

Due to the frequency of overhead bridge allisions in the recent past, the Coast Guard **strongly recommends that** owners or operators of vessels ensure that:

- Every officer in charge of a navigational watch know the air draft of his/her vessel and tow and also know how to apply that knowledge using the resources available to him/her regarding the height and location of bridges, power lines, pipe lines and other elevated objects located within the navigable channel.

- Assumptions are not made regarding a vessel or its cargo’s “air draft” or of “bridge heights”. Specific data must be known when planning transits.

This Safety Alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. It was developed by the Towing Vessel National Center of Expertise and the Office of Investigations and Casualty Analysis. For questions or concerns please visit the Towing Vessel National Center of Expertise web site (www.uscg.mil/TVNCOE) and click on the “About Us” tab under TVNCOE Home.

SAFETY ALERT

May 20, 2014
Washington, DC

Coast Guard Alert #08-14
BSEE Alert #312

DYNAMIC POSITIONING SYSTEM FAILURES ON VESSELS OTHER THAN MOBILE OFFSHORE DRILLING UNITS (VESSELS)

Discussion: This Joint Safety Alert addresses a dynamic positioning (DP) incident on a vessel resulting in a loss of position while conducting a critical Outer Continental Shelf (OCS) activity. An equipment failure, an operational error and multiple failure modes not identified in the vessel's Failure Modes and Effects Analysis (FMEA) combined to produce the loss of position. The OCS activity – well operations that introduced hydrocarbon flow from a well to the vessel – was critical because of the potential for loss of position to result in personal injury, environmental pollution, or catastrophic damage. These consequences were averted because of the successful actions taken by the crew, who performed an emergency disconnect from the well in accordance with established procedures. The Coast Guard and the BSEE are issuing this joint Safety Alert because we share jurisdiction over vessels that perform this type of OCS activity and wish to highlight the interaction between a vessel's Safety Management System (SMS) and a leaseholder's Safety and Environmental Management System (SEMS). See our Memorandum of Agreement OCS-07 "Safety and Environmental Management Systems and Safety Management Systems". The incident report highlighted the following:

Vessel SMS: The vessel has a valid International Safety Management (ISM) certificate issued by its Flag State. The Coast Guard ***reminds*** vessel owners and operators that compliance with the ISM Code, when required, is essential to safe operations, particularly when those operations are critical OCS activities.

1) At the time of position loss, the vessel was performing overdue maintenance on its main power distribution bus circuit breakers. The circuit breakers were two years overdue for their routine inspection and maintenance requirements. Opportunity existed for this work to be performed in a shipyard on an earlier occasion, but the vessel deferred and conducted maintenance during a critical OCS activity *(See ISM Code Regulations 7, 10).*

2) In support of the circuit breaker maintenance, the vessel was transitioning from a "closed bus" operation to an "open bus" configuration with 50% of the vessel's thrusters operating on each bus. After opening the bus tie, the initiating event -- mal-operation of a generator protection circuit combined with a design flaw in a power transformer protection circuit to cause 50% of the vessel's thrusters to stop. The vessel's engineer attempted to restore power to these thrusters by closing the bus tie without synchronizing two live busses (crash sync). Design features and operational procedures to prevent such an action and consequences were not sufficiently in place *(See ISM Code Regulations 6, 8).*

3) The vessel had a design deficiency and an omission in the FMEA which failed to detect the deficiency. The FMEA should have listed crash sync as a possible failure mode and discussed the system's ability to ride through it. The design deficiency allowed a power transient to cause a total loss of thrust *(See ISM Code Regulation 10.3).*

SAFETY ALERT

DYNAMIC POSITIONING SYSTEM FAILURES ON VESSELS OTHER THAN MOBILE OFFSHORE DRILLING UNITS (VESSELS)

Leaseholder/operator SEMS: The BSEE **strongly recommends** leaseholders/operators consider Coast Guard recommendations for DP vessels when evaluating potential hazards and establishing and implementing contractor safe work practices in their SEMS program (*see 30 CFR §§ 250.1911 and 250.1914*). The BSEE reminds leaseholders/operators of their critical role in ensuring safety and environmental hazards associated with contracted vessels on their lease are properly managed. In particular, leaseholders/operators must ensure hazards associated with a loss of position by contracted DP vessels are analyzed and managed with appropriate contractor safe work practices.

Dynamic Positioning:
The Coast Guard **strongly recommends** owners and operators of a vessel using DP to conduct this type of critical OCS activity on the U.S. OCS follow DP guidance provided in the ''DP Operations Guidance Prepared through the Dynamic Positioning Committee of the Marine Technology Society to aid in the safe and effective management of DP Operations Part 2 Appendix 2 (DP Project/ Construction Vessels)" (MTS DP Guidance). See our notice published in the Federal Register (77 FR 62247) for more details.

1) The vessel did not have a Critical Activity Mode of Operation (CAMO) defined. Ensure a vessel has a CAMO defined and is in its CAMO during critical OCS activities. Refer to MTS "TECHOP_ODP_12_(O)_(Defining Critical Activities Requiring Selection of Critical Activity Mode", January 2014 when developing a CAMO and identifying the specific OCS activities that require the vessel to be in its CAMO. *(see MTS DP Guidance Paragraph 4.9)*

2) Ensure the DP operations manual and SMS both appropriately address DP equipment inspection, repair and maintenance requirements. A vessel should not perform maintenance that may cause a loss of position during a critical OCS activity. *(MTS DP Guidance Paragraphs 4.8, 4.9, 4.11)*

3) Refer to International Marine Contractors Association (IMCA) M166 "Guidance on Failure Modes and Effects Analysis (FMEAs)" and MTS Technical and Operational Guidance (TECHOP) "TECHOP_GEN_01_(Power Plant Common Cause Failures)", September 2012 when developing a vessel's FMEA. At a minimum a vessel's FMEA and DP FMEA Proving Trials should address the common failure modes listed in paragraphs 4.2, 4.3 and Figure 1 of TECHOP_GEN_01. *(MTS DP Guidance Paragraphs 4.2 and 4.7)*

4) Ensure a structured competence assurance program is applied to all key DP personnel. At a minimum DP personnel should be required to demonstrate proficiency in understanding the redundancy concept and emergency procedures in intervening for failed redundancy. Intervention proficiency in restoring power and thrust should be demonstrated during drills and annual trials. *(See MTS DP Guidance Paragraph 4.14)*

For additional information, contact Lieutenant Chris Martin at 985-850-6495 with the Coast Guard Outer Continental Shelf Center of Expertise or Staci King at 703-787-1736 with the BSEE Office of Offshore Regulatory Programs SEMS Branch.

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

May 16, 2014 Alert 07-14

Washington, DC

SLIPS, TRIPS and FALLS

Not too difficult to prevent.

Coast Guard casualty investigators recently responded to an incident whereby a tour boat customer fell into an unprotected two step stair well and received significant injuries. Although the customer was taking photographs at the time and may have lost situational awareness there were no defenses to prevent the fall. The hazard was not previously identified and, as is often said, was an accident waiting to happen. Only afterwards did the owner operator install a small lifeline cable across the opening.

This type of vessel design, with a stair well leading to the head, is very common. These specific catamaran vessels were constructed by Cooper Marine, Inc. and Corinthian Catamarans, Inc. (formerly Corinthian Yachts, Inc.) in various sizes over many years. There may be hundreds of these vessels in operation as tour boats, water taxis, dive boats, etc., world over.

Hazards causing slips, trips, and falls require no special skills to be identified and may exist in all marine operations. The mitigation and prevention of such hazards and resultant incidents may often be a very simple matter with minimal or no costs. Only an awareness to such risks is required by vessel employees followed by an owner operator commitment to addressing identified concerns.

As a result of this incident and many others like it the Coast Guard **strongly recommends** that owner operators;

- identify similar stair well hazards and secure them in a manner that will prevent slips, trips and falls;
- when a hazard cannot be completely eliminated (as with the image above), bring the hazard to the attention of passengers during the initial safety brief; and
- make risk awareness part of your operational culture by having vessel personnel frequently evaluate the vessel's condition with the express purpose of identifying and mitigating hazards.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Investigations and Casualty Analysis with the assistance of CG Sector Jacksonville Investigation Division personnel. For questions or concerns please email hqs-pf-fldr-cg-inv@uscg.mil.

UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

May 16, 2014 Alert 06-14

Washington, DC

Don't let

UNPREPARED SAFTEY EQUIPMENT

determine your fate!

Recently while performing several Port State Control examinations Coast Guard Sector Hampton Roads inspectors discovered numerous SABRE Emergency Escape Breath Devices (EEBD) / Emergency Life Support Apparatus (ELSA) in an unprepared status. The "Quick Fire" functionality that puts the EEBD into operation when the bag is opened up and hood is worn was not in its "Primed" state. Such a circumstance can have fatal consequences when time is of the essence to escape a hazardous atmosphere.

When purchased or returned from servicing this equipment will have a small removable label viewable through a window on the bag that states "QUICK-FIRE NOT PRIMED ANTI-TAMPER DEVICE AND FITTING INSTRUCTIONS INSIDE." The unit is not ready. Once delivered to a vessel a technician or competent ship's employee should have opened the bottom left corner flap, attached the "Quick Fire" cord and removed the label. The device will operate correctly and begin to supply air to the hood when the flap is properly connected and later opened.

With the concern that insufficient preparation of critical life saving equipment could contribute to unintended fatalities, the Coast Guard **strongly recommends** that owners and operators of vessels using this or similar devices **carefully inspect their own EEBDs/ELSAs ensuring they are ready for use.**

Routinely confirm that all other safety and firefighting equipment, systems and components are maintained and serviced as per applicable requirements and ready for proper operation.

During your inspection of this equipment be aware of the information presented in the attachments regarding counterfeit EEBDs. This issue was reported as a USCG Safety Alert in 2008 and in 2011 reported as a Marine Safety Forum Safety Flash.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Investigations and Casualty Analysis. For questions or concerns please email hqs-pf-fldr-cg-inv@uscg.mil.

UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

September 19, 2008 Alert 6-08
Washington, DC

COUNTERFEIT EMERGENCY ESCAPE BREATHING DEVICES (EEBDs)

The U.S. Coast Guard has recently learned that counterfeit Unitor model UNISCAPE 15H EEBD Emergency Escape Breathing Devices (EEBDs) are being sold to ship operators and placed onboard commercial vessels. The U.S. Coast Guard **strongly encourages** that all vessel owners and operators with EEBDs onboard carefully and thoroughly inspect them for authenticity. If any doubt exists as to the authenticity, they should immediately contact their emergency equipment vendors and / or the manufacturer for verification or replacement.

The number of fake units sold and currently onboard vessels is unknown and could be substantial. The fake reproduction will not fit over an individual's head and the automatic air release valve will not open. A crisis situation requiring the use of an EEBD will be severely compounded, potentially leading to death, should a crewmember inadvertently rely on a fake reproduction.

Differentiating factors:

An authentic Unitor UNISCAPE 15H is contained in a shiny PVC bag. When viewed from the front with the instruction icons upside down, the zipper opens from left to right, and at the most left section of the zipper is a two centimeter gap covered by a clear tab that has a button closure.

The **fake reproduction** is contained within a **dull canvas-like** material bag. When viewed from the front with the instruction icons upside down, the **zipper opens from right to left**, and at the most left section of the zipper there is no opening, although a tab made of what appears to be the same material of the bag is present with a button closure. This unit will not automatically activate.

Note: Authentic Unitor UNISCAPE 15H EEBDs are not permitted on U.S. flag vessels because they are not National Institute for Occupational Safety and Health certified.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed and distributed by the Office of Investigations and Analysis, United States Coast Guard Headquarters, Washington, DC.

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Office of Investigations and Analysis: http://marineinvestigations.us
To subscribe: kenneth.w.olsen@uscg.mil

Marine Safety Forum – Safety Flash 11-09

Issued: 8th March 2011
Subject: Fake EEBD-set – useless and dangerous

The purpose of this notification is to warn potential users of EEBD-sets. (Emergency Escape Breathing Device) against accidents and loss of life.

WSS Safety service station in Stavanger, Norway received EEBD-sets for annual inspection from one of our regular customers. The service engineer discovered that the bags and the EEBD-sets were fake copies of the Unitor/MSA type Uniscape 15H – and of the same type (copy) as previously discovered and informed.

IT IS OF UTMOST IMPORTANCE THAT THESE FAKE SETS ARE TAKEN OUT OF SERVICE WHENEVER DISCOVERED – AND THE OWNERS ARE SERIOUSLY INFORMED. THESE FAKE COPIES DO NOT WORK AS THEY ARE SUPPOSED TO, AND WILL CREATE AN EXTREMELY DANGEROUS SITUATION FOR THE USER WHEN IT IS NEEDED FOR ESCAPE.

• **The mask hood is impossible to get over your head**. This is the most serious identification; The neck tightening rubber membrane is not flexible enough to be able to pass a normal head size, and it is sewed to the hood with one single seam – not welded as an original Unitor hood.

• The bag has similar print as the WSS original: “UNITOR UNISCAPE 15H” and “Safety by MSA” is printed on the frontside (together with 4 sketches of how to use.

• The bag material is different; Unitor: shiny PVC. Fake: Dull canvas-like material.

• The zipper is opened from right to left, which means that we evaluate the **functionality of the automatic release mechanism to be doubtful.** When the zipper is opened, it moves towards the cylinder valve – not away from it/pulling also the air release line.

• All sets that are discovered per now has a company label/service tag, with the following information:

UNIscan Marine Products & Services
Uniscan Middle East L.L.C.
Shed No.: 71, Al Jadaf Dry Docking Yard
P.O.Box 62487, Dubai, U.A.E.

Unitor EEBD copies in circulation

Upper:
Original Unitor EEBD with shiny PVC bag

Lower:
Copied equipment, with dull canvas-like material

Original Unitor EEBD:
Zipper has 2 cm opening on the teeth
Zipper closes from right to left

Copied equipment:
Zipper has no opening
Zipper closes from left to right. Air-release cannot be activated automatically.

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

May 12, 2014 Alert 05-14
Washington, DC

OVERHEATING OF PARASAIL VESSEL HYDRAULIC OIL SYSTEM LEAVES PARASAILORS ALOFT FOR THREE HOURS

The information in this safety alert is derived from a recent parasail casualty investigation. Two passengers were successfully launched from a parasail vessel for a ride aloft. As they were being winched in the winds picked up. The parasail towline winch became inoperable and 800 feet of towline payed out stranding the passengers aloft. Additionally, the vessel was unable to make way through the water while battling rough seas and the strong winds.

The cause of the winch malfunction was due to overheating of the hydraulic power system. This occurred because of an inadequate oil cooling system (through hull fittings / scoop type system) that relied solely on the vessel's movement through the water. When the vessel's movement was overcome and stalled by the wind acting against the parasail and the waves, there was no water circulation and thus no resultant cooling of the hydraulic oil. Since there was no fail safe braking system, the towline payed out when the hydraulic motor could no longer develop power. Three hours passed before the winds subsided enough to allow forward movement of the vessel, cooling off of the oil, and restoring the system to operation.

This event was fortunate in that the parasail towline did not break and there were no fatalities or injuries. Nevertheless, to prevent similar occurrences, the Coast Guard **strongly recommends** that insurers, owners and operators of parasail vessels:

- Ensure their vessel’s parasail winch hydraulic oil cooling systems are not dependent on forward movement of the vessel. If necessary, have the system modified by a parasail vessel professional.

- Owners of parasail vessels which do have pressurized hydraulic oil cooling systems should ensure that their systems are properly fitted with inlet strainers on the sea water supply and that the rest of the system, pumps, motors, controls, oil filters, etc. are properly maintained at the proper frequency.

- Review the attached previously sent “Know Your Ropes” safety alert and remember:

You set the stage for passenger safety!

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Investigations and Casualty Analysis. For questions or concerns please email hqs-pf-fldr-cg-inv@uscg.mil.

UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Prevention Policy

July 22, 2013
Washington, DC

Alert 07-13

Parasailing Operations
Know Your ROPES

A series of parasail incidents resulting in fatalities and injuries have occurred over the last few years. Since 2006, there have been 11 deaths and 52 injuries as a result of parasailing activities. There have been several common factors in all of these incidents that are unique to parasailing. The following mnemonic '*Know Your* ***ROPES***' was designed to remind parasail operators of important safety issues that may help prevent future casualties:

Remember that most parasail fatalities and injuries are related to the failure of the towline. Failures have occurred at tensions significantly below the rated towline strengths due to a variety of reasons that may include cyclic loading, long term exposure to environmental elements, the presence of knots creating a weak point, and overloading.

Observe and monitor weather conditions continuously. Increases in wind speed impacts the relative speed against the chute, where limits of the towline and/or chute can quickly be exceeded. As wind speed doubles, the load on the towline may quadruple. Be vigilant in monitoring weather conditions noting the formation of squalls, thunderstorms, or whenever weather fronts are expected to pass through your operational area. Cease operations well before such weather conditions impact your parasailing operation. ASTM Standard F2993-13 published on April 1, 2013 is a 'Standard Guide for Monitoring Weather Conditions for Safe Parasail Operation'. It is available for purchase and download on line at http://www.astm.org/.

Prepare for emergencies by having well documented procedures and conducting crew training to ensure proficiency in responding to emergencies such as towline breaks, winch failures, propulsion failures, and any other concerns that impact crew/passenger safety.

Ensure that all of your equipment is properly maintained on a continual basis. This includes the winch and drive motor, hydraulic brakes, hoses and piping, spooling systems, and other tackle. Also check your chutes, harnesses, and related components for stitching failures, degradation, and the need for general repairs. Immediately correct identified problems.

Safety is up to you the Operator. Coast Guard Credentialed Operators are expected to provide an adequate level of safety during vessel operations, to include the monitoring of weather conditions and maintenance of equipment.

The Coast Guard encourages owners and operators to work with each other and related industry associations to share best practices and develop operational standards to maximize safety and prevent marine casualties. *Enforcement action may be taken against the operator* for misconduct or negligent operation.

This alert is provided for informational purposes only and does not relieve any domestic or international requirement. Developed by the Office of Investigations and Analysis, USCG Headquarters, Washington, DC.

Distributed by the Office of Investigations and Analysis: Http://marineinvestigations.us
To subscribe: Kenneth.W.Olsen@uscg.mil

Parasailing Operations

Know Your **ROPES**

Remember

Your towline! Most accidents are related to the failure of the tow line. Remember to continuously assess your line.

Observe and Monitor

Weather! Increased winds and other weather conditions can significantly impact your operations. Cease operations well in advance! See ASTM 'Weather' Standard F2993-13.

Prepare

Be ready for any emergency. Have well documented procedures and conduct crew training frequently.

Ensure

Ensure your equipment is properly maintained. Immediately correct any problems.

Safety

Safety is up to you...the Operator! Do everything you can to ensure the safety of your passengers.

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT
Inspections and Compliance Directorate

April 28, 2014
Washington, DC

Alert 04-14

INADEQUATE SNAPHOOKS ON LIFEJACKETS
REVERE MODELS 198RT & 160RT

The information in this safety alert was distributed a few years ago by Coast Guard Sector New Orleans with limited geographic reach. Recently, Washington State Ferry personnel discovered numerous problematic snaphooks on one of their vessels and reported it to Coast Guard Sector Puget Sound. This alert gives the issue wider circulation, and provides contact information for persons to take corrective action and obtain new snaphooks.

The issue is the spring-loaded tab in the snaphook on the waist belt affecting **some** REVERE lifejacket models 198 RT and 160 RT. The tab has been found to be too long for both the thick or thin design,. When the D-ring of the main waist belt is "hooked," the length of the tab prevents it from snapping closed. With the hook remaining open, the D-ring is not fully secured. (top photograph) The spring-loaded tab may also lose its resiliency. (bottom photograph)

The Coast Guard recommends that owners/operators that have Revere model 198 RT or 160 RT lifejackets or vests on board their vessels inspect them closely for this potential defect.

Persons who discover problematic snaphooks should either call 904-562-5900, or email jacksonville.sales@survitecgroup.com for specific directions on how to obtain replacement snaphooks.

Owners/operators are requested to contact the Coast Guard at typeapproval@uscg.mil if this issue is discovered to be widespread within their organization(s). Special thanks to the Sector Puget Sound Investigations Division and to the Washington State Ferry system for sharing this information.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Investigations and Casualty Analysis. For questions or concerns please email hqs-pf-fldr-cg-inv@uscg.mil.

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

April 8, 2014 Alert 03-14
Washington, DC

FAILURE OF HAND PORTABLE FIRE EXTINGUISHER

This Safety Alert serves as a reminder to vessel owners/operators and fire safety equipment servicing companies to use caution when replacing components on hand portable fire extinguishers. While examining the activities surrounding a fire onboard a vessel, Coast Guard investigators from Sector Hampton Roads learned of the failure of a hand portable 15 pound (lb) Carbon Dioxide (CO_2) extinguisher. During a fire-fighting event, a crewmember attempted to use a 15 lb CO_2 extinguisher, but the extinguisher failed to properly discharge and only seeped from the neck of the extinguisher. The fire was extinguished by another crewmember using a dry-chemical fire extinguisher.

The investigators had the extinguisher examined at a fire-fighting equipment service center. They determined that the hose and discharge horn had been replaced at an earlier time. The end of the hose screws on to a diffuser on the side of the discharge valve/handle assembly of the extinguisher. The diffuser is a ported protrusion on the male end of a ninety degree fitting. On the side of the protrusion are orifices through which the CO_2 flows. The examination revealed that the spherical end of the protrusion, which contains no orifices, bottomed out against the orifice in the connection fitting that leads to the hose and horn assembly. The flow of CO_2 was thus completely blocked.

It was further noted that the male threads of the diffuser were tapered US national pipe threads, while the female threads of the hose connection were straight. This difference likely allowed the hose connection to be tightened further than intended on the diffuser threads, permitting the spherical end of the diffuser to bottom out against the orifice in the tube. This may have also resulted in the reported leakage from the neck of the extinguisher due to back pressure.

Newer types of diffusers exist in which the orifice follows the length of the protrusion and the end is not spherical. However, the issues regarding the tightening of the two components and the importance of ensuring proper lengths and compatibility of the threaded and machined surfaces remain. Binding or bottoming out should not occur except at the threaded surfaces. Replacement parts should be as specified by the original manufacturer of the extinguisher.

The Coast Guard does not know the extent of this problem or if this particular instance of failure is an outlier. It involved an older CO_2 extinguisher with a hose and horn assembly that had been replaced. We do not advise owners/operators or vessel personnel to take apart or disassemble their extinguishers. Only technicians from fire equipment service companies should work on this equipment.

The Coast Guard only advises that if owners/operators, based on visual examination of their equipment, believe there is a possibility of potential blockage of flow due to conditions as described above, they should contact a qualified fire equipment service company for more thorough examination, testing, and repair, if needed.

The Coast Guard recommends that fire equipment service companies be aware of the potential problems described above, and ensure that all replacement components for servicing hand portable fire extinguishers are as specified by the original extinguisher manufacturer. Service companies that market replacement parts should also note the importance of these concerns and advise their customers accordingly. If the appropriate replacement parts are not available, the extinguisher should be replaced.

Owners/operators and fire equipment service companies are requested to contact the Coast Guard at typeapproval@uscg.mil if this issue is discovered to be a widespread problem. Special appreciation to Sector Hampton Roads investigation shop for identifying this important issue.

This safety alert is provided for informational purpose only and does not relieve any domestic or international safety, operational or material requirement. Developed by Sector Hampton Roads Investigations and the Office of Investigations and Analysis, Washington, DC. For questions or concerns please email hqs-pf-fldr-cg-inv@uscg.mil.

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

January 9, 2014
Washington, DC

Alert 02-14

TANK SAMPLING DANGERS / H_2S Threshold Limit Change

This Safety Alert serves as a reminder to Coast Guard (CG) personnel and the maritime community of potential dangers during sampling of cargo tanks. During a recent Port State Control (PSC) tank vessel examination, a CG member was exposed to a dangerous concentration of Hydrogen Sulfide (H_2S) gas and suffered a serious injury.

The exposure occurred during a tank vessel exam onboard a tank vessel carrying Grade E Sour Crude. A PSC team requested a ship's crew member check cargo tank oxygen levels using the ship's portable gas meter. The crew member accessed the cargo tank via a deck sounding valve similar to the adjacent photo. When the valve was opened the pressurized cargo tank atmosphere escaped releasing inert gas and H_2S vapors.

During the evolution the personal gas meters of two individuals involved (one CG and one crew) alarmed for H_2S. The CG officer whose alarm sounded was standing 1–2 feet downwind from the sounding valve. Within days the CG officer developed severe exposure symptoms consistent with H_2S exposure. The other two CG officers involved were standing upwind. Afterward, one reported experiencing a minor headache.

OSHA notes that H_2S is a colorless, flammable gas with a "rotten egg" smell that occurs naturally in crude petroleum. Even at low concentrations this heavier-than-air gas can irritate the eyes, nose, throat and respiratory system with effects delayed for hours or days. At higher concentrations, nausea, vomiting, headaches, dizziness, unconsciousness or death may occur. While the initial "rotten egg" odor is present, an individual may lose the ability to smell that gas after becoming exposed. Personal monitoring equipment is, therefore, vital to protect against exposure. An alarm on H_2S constitutes an acute exposure and should trigger immediate evacuation and initiation of acute exposure procedures including medical attention.

Prior to using portable gas monitoring equipment, personnel should familiarize themselves with ISGOTT Section 11.8 and safe work practices for conducting or witnessing these tests. ISGOTT recommends when sampling tanks personnel should stand perpendicular to the wind to avoid being downwind or upwind and creating eddies. When monitoring cargo tank atmospheres, all personnel should exercise diligence and great care. In all cases, personnel should completely assess the risks, to include the cargo type, tank pressure, venting arrangements, wind direction/speed and condition of the testing equipment. When H_2S is suspected to be present, ISGOTT Section 2.3.6.5 recommends that a self contained breathing apparatus (SCBA) be worn if it is necessary to breach the integrity of the cargo system and if a vapor free atmosphere cannot be guaranteed.

The American Conference of Governmental Industrial Hygienists recently reduced the H_2S dangerous Threshold Limit Value from 2 parts per million (ppm) to 1 ppm.

As a result the Coast Guard **strongly recommends** that those involved in cargo tank sampling or atmosphere testing:

- Be familiar with and adhere to ISGOTT safe work practices.
- Assess personnel risks.
- Don appropriate personal protection equipment including gas monitoring detectors, respirator or SCBA.
- If gas monitoring detectors are used ensure:
  - detectors are maintained and properly calibrated
  - alarm settings values are properly set
- Be aware and familiar with the hazards of the cargos involved as well as exposure indicators and emergency response procedures.

This safety alert is provided for informational purpose only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Traveling Inspectors, Washington, D.C. For additional information contact Commander Thomas Griffitts: Thomas.A.Griffitts@uscg.mil.

UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

January 9, 2014
Washington, DC

Alert 01-14

Offshore Sailing

You must be prepared.

In a recent offshore regatta, numerous sailboats experienced steering system and other failures which required assistance and/or rescue by the U. S. Coast Guard when a weather system stalled offshore creating higher than expected sea states and winds. The Coast Guard responded using an array of assets to render assistance.

Offshore sailing requires special knowledge, skills, and abilities. Vessel equipment and components must be thoroughly checked before getting underway and periodically while at sea. The offshore domain's remoteness adds a negative dynamic to survivability concerns. Preparation is key to minimizing misfortune.

The Coast Guard **strongly recommends** that owner / operators of offshore sailboats ensure proper maintenance and repair of their critical mechanical systems to reduce the possibility of failure during stressed operating conditions.

- ✓ Operational limitations of the systems must be understood.
- ✓ Sailors should have the repair manuals associated with their important propulsion and steering systems onboard and be able to detect oncoming failures and perform emergency repairs.
- ✓ Adequate tools, hardware, and an array of fasteners should be kept onboard.
- ✓ Common spare parts that are known to fail on a particular system should be kept onboard.
- ✓ If mechanical ability is lacking, additional training should be taken to provide minimum skill sets.
- ✓ Regular inspection and prompt corrective action of all steering gear components including linkages, ram assemblies, controls and cables, in addition to engine systems, should be part of getting underway and day-to-day operations.
- ✓ Equipment should be tested before getting underway, noting variations in movement, feel, sound, and resistance.
- ✓ Flooding and damage control kits should be kept onboard.
- ✓ Sailors should contemplate and envision ways to fabricate a temporary emergency rudder using components (table tops, cabinet doors, spinnaker poles, etc.) already onboard.
- ✓ Make sure all EPIRBs, PLBs, are registered, operational and available. Ensure your VHF radio is fully functional.
- ✓ Lastly, **always file a float plan** with family or friends ashore *before* getting underway. Float plans are simple tools that help rescuers locate stranded boaters in distress, and may be printed from the following site: http://www.floatplancentral.org/download/USCGFloatPlan.pdf

This alert is for informational purposes only and does not relieve any domestic or international safety, operational, or material requirement. Developed by the Fifth Coast Guard District, Portsmouth, VA. Questions may be addressed to LCDR Ken Morton, (757) 398-6284, or may be forwarded to D05-DG-Prevention-DPI-PFB-Staff@uscg.mil. *******

UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

December 31, 2013 Alert 11-13

Washington, DC

Entanglement Accidents

A recent marine casualty involving a severe injury to a crewmember aboard an inspected passenger vessel reminds us that these hazards happen in any segment of the maritime industry. Moving, rotating, and reciprocating machinery may include (but are not limited to) rotating or spinning shafts, fan blades, fan or serpentine belts, gearing, hydraulic ram assemblies, couplings, arms, linkages, windlasses, drums, blocks, booms, and sheaves, etc.. In this instance, a crewmember's hair became entangled with a rotating propeller shaft as the crewmember was on watch and conducting rounds. The crew member sustained life-threatening injuries and is permanently disfigured. Although the investigation of this casualty is not complete, initial observations serve to remind all vessel owner / operators, and crew members of the hazards onboard vessels of all types.

The Coast Guard **strongly recommends** that vessel owner /operators evaluate their vessels for the presence of moving, rotating, reciprocating or articulating machinery hazards, and implement documented common-sense policies, procedures, and safety measures:

- ✓ Never wear loose fitting clothing, jewelry or personal gear in the vicinity of such equipment.
- ✓ Keep long hair tied back to avoid entanglement;
- ✓ Install and maintain guards and protective equipment to prevent personnel contact;
- ✓ Post appropriate hazard signs;

- ✓ Never energize machinery unless certain that all personnel are well clear;
- ✓ Follow proper lock-out tag-out procedures when working near or on such equipment, and ensure it has been verified that local or remote motor controls have been tagged-out or disabled and completely de-energized;
- ✓ Develop procedural safeguards that eliminate, as far as practicable, personnel's need to be in proximity to hazardous machinery when in operation;
- ✓ Regularly conduct onboard safety training to emphasize safety procedures and the hazards of machinery, include deck and engine department, cargo equipment, and tools;
- ✓ Always be vigilant for new risks and dangers presented to your crews and passengers.

This alert is for informational purposes only and does not relieve any domestic or international safety, operational, or material requirement. Developed by the Fifth Coast Guard District, Portsmouth, VA. Questions may be addressed to LCDR Ken Morton, (757) 398-6284, or may be forwarded to D05-DG-Prevention-DPI-PFB-Staff@uscg.mil.

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

December 31, 2013 Alert 10-13
Washington, DC

Attention on Deck!
Commercial Fishing Vessels

According to U. S. Bureau of Labor statistics, in 2012 commercial fishing was the second most dangerous occupation in the country, with over 117 fatalities per 100,000 workers.[i] This alert serves to remind commercial fishing vessel owners, operators, and crew members of the dangers associated with working around moving deck machinery, rigging, and equipment.

A recent marine casualty resulting in the death of a crew member highlights the need to remain ever-vigilant to unsafe practices and conditions. In this instance, the crew member was standing in a hazardous location on the vessel's working deck, near the stern between a section of interior bulwark and a large-diameter trawl wire which was supporting the weight of at least 1,400 pounds of deployed fishing gear. As the load on the wire increased and the direction of the load path shifted due to the sea state and the vessel's motion, the wire suddenly became taught against the vessel's bulwark where the crew member had been standing. As a result, the crew member was trapped in between and suffered fatal injuries. Although the investigation of this casualty is not complete and other causal factors may be discovered, initial findings indicate that failure to follow shipboard safety procedures and failure to recognize a dangerous situation may have contributed to this casualty.

The Coast Guard **strongly recommends** that owners, operators, and crew members of commercial fishing vessels implement the following, common-sense safety measures:

- Develop and post safety plans that include identification of "pinch points" and other dangerous locations on deck;
- Regularly conduct onboard safety training emphasizing on-deck hazards and other potential dangers;
- Remain ever-vigilant to the changing nature of potential dangers in the presence of moving deck machinery, rigging, and equipment;
- Follow vessel safety procedures and avoid placing oneself in peril!

This alert is for informational purposes only and does not relieve any domestic or international safety, operational, or material requirement. Developed by the Fifth Coast Guard District, Portsmouth, VA. Questions may be addressed to LCDR Ken Morton, (757) 398-6284, or may be forwarded to D05-DG-Prevention-DPI-PFB-Staff@uscg.mil.

[i] U. S. Bureau of Labor 2012 Census of Occupational Injuries: http://www.bls.gov/iif/oshcfoi1.htm#rates. The national occupational fatality rate is 3.2 deaths per 100,000 workers; logging is the most dangerous occupation with 128 deaths per 100,000 workers.

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

August 30, 2013 Alert 09-13
Washington, DC

BRIDGE RESOURCE MANAGEMENT IN PILOTAGE WATERS

This Safety Alert serves as a reminder to the maritime community that navigation watch teams should at all times use Bridge Resource Management (BRM) best practices and techniques even when the ship is being directed by a properly licensed pilot.

What is Bridge Resource Management?
BRM is the effective management and utilization of all available resources, both human and electronic, by the navigation watch team to ensure the safe navigation of the vessel. The essence of BRM is a safety culture and management approach that facilitates communication, cooperation, and coordination among the individuals involved in a ship's navigation. BRM is required by the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers.

Recent Case Highlights BRM Failure in Pilotage Waters
A recent marine casualty investigation of a bridge allision involving a deep draft tank ship revealed the local pilot was navigating the vessel in highly reduced visibility conditions without any substantive navigation assistance or input from the vessel's bridge watch team. The pilot and both watch officers on the vessel's bridge had taken a BRM course within the last five years. The pilot's course was a "BRM-P" course (i.e., a BRM course designed and approved to focus on the functions, tasks, experiences, and needs of compulsory pilots). The vessel's operating company had policy and procedures in place requiring crews to utilize BRM yet communications between the crew and the pilot were lacking.

Effective BRM Requires Proactive Action by Owner/Operator, Master and Pilot
Masters are reminded they are ultimately responsible for the bridge watch team's conduct and safe navigation. This includes maintaining discipline in promoting teamwork and information exchange, especially when cultural or language barriers may exist between the pilot and the vessel's crew. The presence of a properly licensed pilot does not relieve a vessel's bridge team of its responsibilities for safe navigation.

The Coast Guard **strongly recommends** all vessel owners, operators, and masters ensure effective BRM is being utilized aboard their vessels, and that mechanisms exist to ensure that a *cooperative, mutually-supportive working relationship* is developed between the bridge team and the pilot in recognition of their respective responsibilities for safe navigation. **Vessel operators** are encouraged to utilize a robust audit program to frequently monitor and evaluate the extent to which BRM principles are being practiced. The Coast Guard also recommends **vessel pilots** employ appropriate mechanisms to facilitate effective BRM to the maximum extent possible, including a thorough Master-Pilot exchange, and effective communication and collaboration while navigating, particularly during periods of restricted visibility, maneuvering, or heavy traffic.

This Safety Alert is provided for informational purposes and does not relieve any foreign or domestic requirement. Developed by the Coast Guard Sector San Francisco. Questions may be addressed to LT. Jon Lane; Jon.D.Lane@uscg.mil.

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

August 30, 2013
Washington, DC

Alert 08-13

CONFINED SPACE ENTRY DANGERS
Understanding Hazards

This Safety Alert serves as a reminder to Coast Guard personnel and the maritime community of the potential dangers of confined space entries. During two recent inspections, Coast Guard Inspectors' gas meters alarmed, preventing a potential loss of life or serious injury.[1]

In the first case, an inspector was on board a tank vessel to conduct a Port State Control Examination. In anticipation of the examination, the crew opened the hatch to the Freefall Lifeboat to let it air out. As the Inspector entered the lifeboat his gas meter alarmed and he quickly exited. Upon investigation, it was confirmed with ship's equipment that Carbon Monoxide had collected in the lifeboat. Wind conditions had been blowing exhaust from the main stack into the lifeboat. Although not a confined space by OSHA or Coast Guard standards, the risks were the same.

In the second instance, while inspecting the #1 deep ballast tank on a deep draft container ship, an experienced marine inspector was going to climb through a box-like structure formed by floors and longitudinals in the #1 bay, just aft of the collision bulkhead. The "box" had only two lightening holes. Prior to entering the first lightening hole the inspector put his 4-gas meter through. It immediately alarmed for low O2. The inspector exited the ballast tank. While the ballast tank had been ventilated and was safe, the inspector failed to recognize that the "box" formed a confined space within a confined space and had not been cleared by the shipyard competent person.

In both instances, the proper use of a gas meter likely prevented tragic consequences. The Coast Guard **strongly reminds** all shipboard personnel and those associated with inspections, surveys or audits of vessels worldwide, that hazardous atmospheres are frequently present onboard vessels and pose a great risk to personal safety. Besides the use of a personal gas meter for immediate protection, all organizations should have policies and procedures in place that address accessing these areas and make available the appropriate safety equipment for personnel.

This Safety Alert is provided for informational purposes and does not relieve any foreign or domestic requirement. Developed by the Office of Traveling Inspectors, Washington, D.C. For additional information contact Commander Thomas Griffitts: Thomas.A.Griffitts@uscg.mil.

Photograph: IACS Confined Space Entry -
http://www.iacs.org.uk/document/public/Publications/Guidelines_and_recommendations/PDF/REC_72_pdf212.pdf

Office of Investigations and Analysis: http://marineinvestigations.us
To subscribe: kenneth.w.olsen@uscg.mil

[1] The Coast Guard uses a personal meter that measures Oxygen, H2S, CO and LEL.

Enclosed Space Entry

STOP

You must not open or enter an ENCLOSED SPACE unless authorized by the master or the nominated responsible person and unless the appropriate safety procedures laid down for the particular ship have been followed

THINK

Before entering an ENCLOSED SPACE, you must have a Permit to Enter completed by the master or responsible person and by any persons entering the space

ASK

Have I received instructions or permission from the master or nominated responsible person to enter the enclosed space?

IF YOU DO NOT HAVE A PERMIT TO ENTER AND HAVE NOT RECEIVED INSTRUCTIONS OR PERMISSION FROM THE MASTER OR NOMINATED RESPONSIBLE PERSON, THEN **DO NOT ENTER ANY ENCLOSED SPACE**

What is an ENCLOSED SPACE?

ENCLOSED SPACE means a space which has any of the following characteristics: limited openings for entry and exit; inadequate ventilation; and is not designed for continuous worker occupancy.

Adapted from, and in support of, IMO Resolution A.1050(27) – Revised recommendations for entering enclosed spaces aboard ships.





A Marine Accident Investigators' International Forum project, sponsored by: Bahamas Maritime Administration; Republic of the Marshall Islands Maritime Administrator; Norwegian Maritime Directorate; St. Kitts & Nevis International Ship Registry; South African Maritime Safety Authority; Swedish Transport Agency; United States Coast Guard; and supported by The Nautical Institute

UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Prevention Policy

July 22, 2013
Washington, DC

Alert 07-13

Parasailing Operations
Know Your ROPES

A series of parasail incidents resulting in fatalities and injuries have occurred over the last few years. Since 2006, there have been 11 deaths and 52 injuries as a result of parasailing activities. There have been several common factors in all of these incidents that are unique to parasailing. The following mnemonic '*Know Your* ***ROPES***' was designed to remind parasail operators of important safety issues that may help prevent future casualties:

Remember that most parasail fatalities and injuries are related to the failure of the towline. Failures have occurred at tensions significantly below the rated towline strengths due to a variety of reasons that may include cyclic loading, long term exposure to environmental elements, the presence of knots creating a weak point, and overloading.

Observe and monitor weather conditions continuously. Increases in wind speed impacts the relative speed against the chute, where limits of the towline and/or chute can quickly be exceeded. As wind speed doubles, the load on the towline may quadruple. Be vigilant in monitoring weather conditions noting the formation of squalls, thunderstorms, or whenever weather fronts are expected to pass through your operational area. Cease operations well before such weather conditions impact your parasailing operation. ASTM Standard F2993-13 published on April 1, 2013 is a 'Standard Guide for Monitoring Weather Conditions for Safe Parasail Operation'. It is available for purchase and download on line at http://www.astm.org/.

Prepare for emergencies by having well documented procedures and conducting crew training to ensure proficiency in responding to emergencies such as towline breaks, winch failures, propulsion failures, and any other concerns that impact crew/passenger safety.

Ensure that all of your equipment is properly maintained on a continual basis. This includes the winch and drive motor, hydraulic brakes, hoses and piping, spooling systems, and other tackle. Also check your chutes, harnesses, and related components for stitching failures, degradation, and the need for general repairs. Immediately correct identified problems.

Safety is up to you the Operator. Coast Guard Credentialed Operators are expected to provide an adequate level of safety during vessel operations, to include the monitoring of weather conditions and maintenance of equipment.

The Coast Guard encourages owners and operators to work with each other and related industry associations to share best practices and develop operational standards to maximize safety and prevent marine casualties. *Enforcement action may be taken against the operator* for misconduct or negligent operation.

This alert is provided for informational purposes only and does not relieve any domestic or international requirement. Developed by the Office of Investigations and Analysis, USCG Headquarters, Washington, DC.

Distributed by the Office of Investigations and Analysis: Http://marineinvestigations.us
To subscribe: Kenneth.W.Olsen@uscg.mil

Parasailing Operations

Know Your **ROPES**

Remember

Your towline! Most accidents are related to the failure of the tow line. Remember to continuously assess your line.

Observe and Monitor

Weather! Increased winds and other weather conditions can significantly impact your operations. Cease operations well in advance! See ASTM 'Weather' Standard F2993-13.

Prepare

Be ready for any emergency. Have well documented procedures and conduct crew training frequently.

Ensure

Ensure your equipment is properly maintained. Immediately correct any problems.

Safety

Safety is up to you...the Operator! Do everything you can to ensure the safety of your passengers.

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

June 18, 2013 06-13
Washington, DC

COAST GUARD TERMINATION OF ITS 2 MHZ DISTRESS WATCHKEEPING SERVICE

Effective 01 August, 2013, the U. S. Coast Guard will terminate its radio guard of the international voice distress, safety and calling frequency 2182 kHz and the international digital selective calling (DSC) distress and safety frequency 2187.5 kHz. Additionally, marine information and weather broadcasts transmitted on 2670 kHz will terminate concurrently.

The Coast Guard will continue to maintain a continuous watch on VHF FM channel 16 (156.8 MHz) and on existing voice and DSC frequencies in the 4/6/8/12 MHz bands as described in the Coast Guard Navigation Center website http://www.navcen.uscg.gov/?pageName=cgcommsCall.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Spectrum Management and Telecommunications Policy Division (COMDT CG-652), USCG Headquarters, Washington, D.C.. Questions may be addressed to Ms. Sonia Kendall Sonia.L.Kendall@uscg.mil.

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

June 17, 2013 05-13
Washington, DC

RECENT FAILURES OF DYNAMIC POSITIONING (DP) SYSTEMS ON MOBILE OFFSHORE DRILLING UNITS

This Safety Alert addresses dynamic positioning incidents resulting in a loss of position on drillships. A loss of position during a critical activity may result in a loss of well control and severe consequences including loss of life, pollution, and property damage. Critical activities are those activities where the consequences of equipment failure or loss of position are greater than under normal operating circumstances. Two examples would be a MODU conducting well operations with non-shearables through the blowout preventer (e.g., the blowout preventer's shear ram(s) cannot shear) or when the time to terminate operations is unacceptable (e.g., the MODU crew cannot reposition the non-shearable away from the BOP's shear ram in the time required to disconnect).

Recent incidents involving drillship loss of position and emergency disconnects have highlighted the importance of operating a dynamically positioned drillship within its design limits, ensuring dynamic positioning compentency levels and ensuring approprate precautions are taken during maintenance and testing of critical equipment. A loss of position on a dynamically positioned drillship can be mitigated by following dynamic positioning system guidance published in the "DP Operations Guidance Prepared through the Dynamic Positioning Committee of the Marine Technology Society to aid in the safe and effective management of DP Operations," March 2012 Part 2 Appendix 1 (dynamically positioned MODUs), available at:

http://www.dynamic-positioning.com/dp_operations_guidance.cfm .

See our notice in the Federal Register (77 FR 26562) available at:

http://www.uscg.mil/hq/cg5/cg521/docs/DP_FR_Notice_2012-10669.pdf .

In two recent incidents, dynamically positioned drillships lost functional thrusters due to an electrical disturbance when attempting to reconnect a faulty thruster after maintenance. When the thruster was reconnected it was not electrically isolated from other thrusters and the thrusters did not "ride through" the disturbance causing loss of thrust. During these incidents the drillship crews were unable to restore all functional thrusters and as a consequence these drillships lost position and had to initiate the emergency disconnect sequence (EDS).

In another incident a dynamically positioned drillship encountered severe weather with high, shifting winds that caused it to lose position and initiate the EDS. Despite receiving a weather alert for severe thunderstorms and high winds well before this incident, only half of the available diesel generators were on line when the storm hit and the DP Operator (DPO) ordered a significant heading change with a high rate of turn when the drillship began to lose position. The drillship was unable to achieve the ordered heading or bring all generators online before it lost position and had to initiate the EDS.

Based on these incidents, the **U.S. Coast Guard recommends** that owners and operators of dynamically positioned MODUs operating on the U.S. Outer Continental Shelf:

- Include appropriate material on preventing these incidents in *training programs* for DPOs and other key DP personnel. Training programs should maximize use of DP simulators to gain proficiency in maintaining heading (dynamically positioned drillships) and ensuring equipment is ready ahead of severe weather, ensuring communications with the drill floor (e.g. use of "blue advisory"/risk assessment) and re-establishing thrust in emergency situations. (See Marine Technology Society (MTS) MODU Operations Guidance Section 4.13 and IMCA M 117 Rev.1 Appendix 4).
- Develop and implement a Critical Activity Mode of Operation (CAMO) and a Well Specific Operating Guideline per MTS, "DP Operations Guidance" to ensure that the most reliable DP system configuration is used during critical activities. Develop and utilize a CAMO for any activity you or your lessee identifies as critical. When developing a CAMO, consider requiring open bus operation during critical activities to prevent a worst case failure with a potential for zero thrust in excess of your drift off time to the Point of Disconnect (See MTS DP MODU Operations Guidance Section 4.8 and Appendix C "Example of a CAMO", "Power Distribution").
    - It may be possible to make a common power system fully fault tolerant in respect of single failure criteria for DP Class 2 and DP Class 3. However, in such designs fault tolerance depends on a very comprehensive range of protective functions and on many items of equipment being able to perform to capacity. Operating the power plant as two or more independent power systems reduces dependence on protective functions and vulnerability to hidden failures. It does not remove all common points between redundant systems. The potential to lose one part of the system is higher but the potential to lose the complete system is reduced (See MTS "DP Vessel Design Philosophy Guidelines" Section 10.8).
- Perform testing aboard MODUs to ensure functional thruster drives will ride-through a system disturbance. This testing should indicate how the system will react during a significant bus disturbance such as a short circuit on the main switchboard. Where ride-through capability is an essential part of the DP redundancy concept it should be proven by live short circuit and ground fault testing per Section 9.2.5 of the MTS "DP Vessel Design Philosophy Guidelines". This testing should be incorporated into the vessel DP Proving Trial (5-year).
- Perform regular thermal imaging surveys of DP system electrical equipment (e.g., switchgear, drives, motor controllers, etc.) as part of a preventative maintenance program to provide early detection of faulty or loose connections.

This Safety Alert is provided for informational purposes and does not relieve any foreign or domestic requirement. Developed by the Coast Guard Outer Continental Shelf National Center of Expertise. For additional information contact Commander James Rocco: james.v.rocco@uscg.mil .

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

May 22, 2013 04-13
Washington, DC

Navigation Lights – Not!

The Coast Guard has recently become aware of the uninspected towing vessel industry using inappropriate navigation lights that fail to meet the criteria for use onboard any vessel; SEACHOICE Products LED Navigation Light, SCP #03201 shown below. Online research shows many outlets for the sale of this product. It is possible that this product may be in widespread use in the recreational boating industry as well.

The SEACHOICE Products and other catalogs advertise it as a "LED classic navigation light." Packaged individually, the item looks as shown on the left. The package indicates incorrect usage as a "masthead light." When web-searched the retrieved information presents it as a "masthead" or "navigation" light. Neither of these applications are correct and the fixture should not be used on any vessel in an effort to meet the navigation rules.

Masthead lighting requires an arc of 225 degrees visibility and stern lighting requires an arc 135 degrees visibility, for a total range of 360 degrees visibility. Depending on the type of vessel there are also light, color and range of visibility requirements.

The SEACHOICE product SCP 03201 has an arc of 180 degrees visibility and is not applicable to any requirement.

The Coast Guard **strongly recommends** that owners / operators of any vessel who installed this particular SEACHOICE product (#03201 only) as a masthead, stern or other type of navigation light to remove it and replace it with a proper light that meets the requirements for the vessel and application.

Recreational boaters who have questions should contact the Coast Guard Auxiliary. Commercial vessel owner / operators who have questions should contact the Coast Guard Sector or Marine Safety Unit.

Standards for color, intensity and arc of visibility can be found in Annex I of COLREGs or:

- 33CFR84.13 - Color specification of lights
- 33CFR84.15 - Intensity of lights
- 33CFR84.17 - Horizontal sectors
- 33CFR84.19 - Vertical sectors

Special thanks to Coast Guard Sector Detroit for identifying this issue.

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

April 30, 2013 03-13b
Washington, DC

Surge Protective Devices Onboard Vessels (correction with additional information)

We've all seen them and used them. Surge protective devices (SPDs), more commonly known as surge protectors or power strips help protect our expensive electronic devices from being damaged from excessive currents and allow us to simultaneously deliver power to multiple devices. This safety alert addresses the use of certain electrical protection devices onboard vessels and the inherent risks they may cause. Most commercially available SPDs are designed for use ashore and will interrupt *only* the hot conductor when a surge occurs. What does that mean for the ship owner/operator? It means that while these devices may provide protection in our homes and offices, these same devices may be a fire risk onboard vessels.

A marine casualty investigation of two separate stateroom fires onboard a U.S. Flag Container ship revealed that the sources of the fires were attributed to the use of SPDs plugged into a lighting circuit. It was discovered that a ground had developed on another circuit that was connected to the same distribution panel providing power to the staterooms. This ground created an imbalance of voltage between the two power conductors supplying the SPDs which caused excessive currents, overheating, and subsequently, a fire. In this instance, even if the SPDs automatically tripped as designed, only one power conductor would have been secured while the other would continue to provide power, possibly shorting to the device's ground wire and the structure of the vessel.

For shipboard applications, it is critical for a device to interrupt both power conductors. ~~Underwriters Lab Standard - UL Marine 1449 – addresses this issue and applies to the use of SPDs.~~

The Coast Guard **recommends** that vessel Owners, Operators, Class Society Surveyors, Insurers, and other inspection personnel examine the risks associated with the use of SPDs aboard their vessels, and if necessary ensure their organizations have policies and procedures relating to their use. Vessels should have defined procedures for checking the condition and grounding capabilities of personal/portable electrical equipment, and trained shipboard personnel should be assigned to check and approve all SPDs in use or brought on board for compatibility with the vessel's electrical distribution system prior to use. Routine checks of switchboard and distribution system 120 VAC ground detection systems are necessary to detect the presence of grounds that may cause similar circumstances with non-marine type SPDs. <u>These recommendations are not mandated rather just an advisory based on lessons learned from the casualty</u>.

Additional Technical Information:

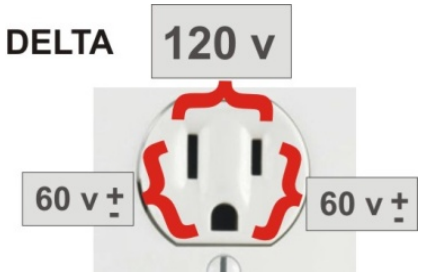
- This safety alert only applies to vessels with alternating current power systems and may be most likely applicable to larger industrial and commercial vessels. It relates to different manners in which power is generated, transformed and supplied throughout the vessel.
- There is no official Underwriters Laboratory standard for Marine Surge Protective Devices despite numerous retailers advertising "UL Marine 1449."

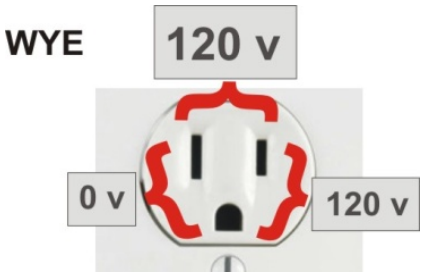
The recommendations on page one of this document remain. Ideally, if there is excessive use of power strips onboard there may be a need to consider the installation of additional permanent components such as distribution panels, breakers, cabling or receptacles. An SPD should be -

- only permitted for use onboard once approved by a trained crewmember,
- removed from service if it is hot to touch,
- unplugged when not in use,
- regularly inspected for damage or wear,
- limited to one SPD per single duplex receptacle outlet and never daisy chained,
- prevented from use in excessively humid or moist environments,
- provided air circulation and not covered with carpet or other items, and
- checked to ensure that all plugs are fully engaged.

The primary concern of this alert is to ensure electrical protection devices such as SPDs operate correctly with the manner in which the 120 volt receptacle circuitry onboard the vessel is wired. Receptacle circuitry may be wired in Delta or WYE configurations.

Using a voltmeter, a marine electrical professional will note that a Delta wired circuit will read the voltage across the terminals as shown in the image on the right. The Delta configuration has two hot leads one at +/-60 VAC, the other at +/- 60 VAC, simultaneously to provide the 120 VAC potential. **Here lies the problem with inexpensive and older SPDs that only disconnect one "hot" terminal lead. The other "hot" terminal remains hot if the circuit breaker supplying the receptacle and SPD does not trip.**





A marine electrical professional using a voltmeter on a WYE wired circuit will read voltage across the terminals as shown in the image on the left. For a WYE configuration 120 VAC is established between the hot terminal and the neutral terminal *and* the hot terminal and the ground terminal of the receptacle.

Owner / operators may wish to purchase equipment meeting MIL Performance Specification MIL-PZRF-32167A which incorporates ASTM F1507 (Standard Specifications for Surge Suppressors for Shipboard Use) and UL 1449 (Safety Standards for Surge Protective Devices). Further, for informational purpose only, US Navy and CG vessels use SPDs with the following National Supply Number (NSN) 6150-01-362-7192.

It should be noted that related issues (mismatches between Delta or WYE systems) have been reported with 120 VAC Uninterrupted Power Supplies purchased ashore and used onboard vessels. Such devices should be selected to match the power supply configuration.

Owner / operators who are not familiar with these issues or have remaining questions should consult their technical departments or a marine electrical professional. These recommendations are an advisory only and not mandatory. Special thanks to personnel from FOSS Maritime, Keystone Shipping and the Philmont Group for sharing their insights and policy pertaining to this matter.

This document is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Investigations and Casualty Analysis, United States Coast Guard Headquarters, Washington, DC. Questions can be addressed to the sender.

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

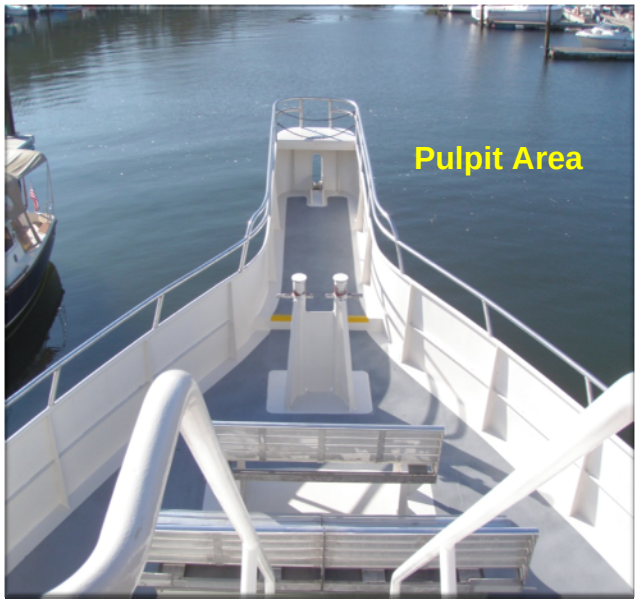
Inspections and Compliance Directorate

March 21, 2013 02-13
Washington, DC

BOW RIDING IN HEAVY WEATHER

Don't get bounced!

Several passengers standing in the bow pulpit of a 106' inspected whale watching vessel were injured while underway. The vessel struck a large wave, its bow rose and slammed down causing the passengers in the pulpit to lose their balance and fall to the deck. Injuries ranged from cuts and bruises to a broken patella (knee) and jaw. Although there were many other passengers on board at the time, only the passengers standing in the pulpit were injured.



The investigation concluded that:

- Proper verbal briefings regarding unfavorable weather conditions were made to the passengers; however, some passengers had disregarded these safety warnings.
- The vessel did not have a policy which outlined operational conditions as to when the bow area and pulpit should be vacated.

The master's judgment is crucial in considering securing access to the bow area when the vessel is operating in less than ideal sea conditions. As the sea state and speed of the vessel increases, the likelihood of the vessel experiencing sudden and erratic motion also increases. These circumstances and passenger demographics should be considered when determining if the closure of the bow area is necessary.

As a result of this casualty, the Coast Guard **strongly recommends** that all vessel owners/operators operating vessels with bow areas open to passengers establish written policy and procedures for vacating the area when operational conditions present risks of injury. The policy and procedures should address the vessel's speed and sea state, in addition informing passengers during the pre-departure safety brief of the restrictions prior to getting underway.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed and distributed by the Investigations Office of Coast Guard Sector Southeastern New England and the Office of Investigations and Analysis, United States Coast Guard Headquarters, Washington, DC.

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

March 21, 2013
Washington, DC

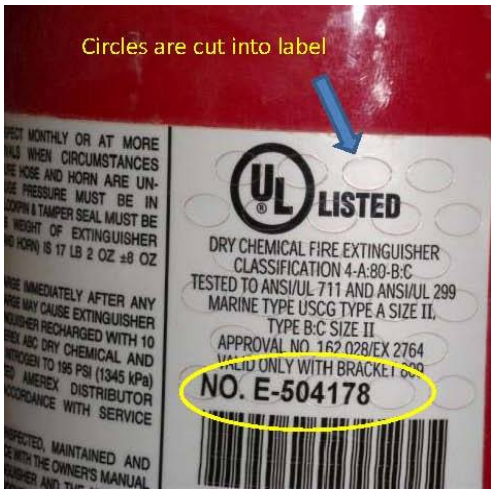
Alert 01-13

Counterfeit Portable Fire Extinguishers

The Coast Guard has recently become aware of counterfeits of *U.S. Coast Guard approved* portable fire extinguishers manufactured by Amerex Corporation and Buckeye Fire Equipment. Both companies are major producers of genuine approved fire extinguishing equipment and serve a worldwide market. These counterfeit extinguishers present a significant safety hazard. Their capability to extinguish a fire is unproven; they may be charged with a powdery substance that is not a fire extinguishing agent, the pressure cylinder is not DOT approved, and the pressure gauge may not function or give false readings.

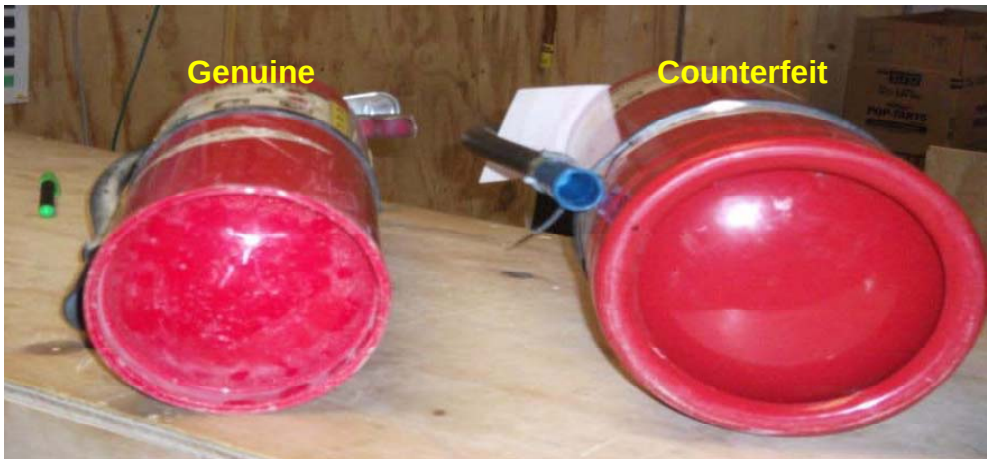
The dry-chemical counterfeit extinguishers are size B-II and may be identified by several distinguishing features:

Counterfeit units may have duplicate serial numbers. Genuine approved extinguishers will have a unique serial number for each extinguisher. For counterfeit Amerex extinguishers, the serial № V-654690 has been reported. There may be other serial numbers used on the counterfeits. For counterfeit Buckeye extinguishers, the serial № K-094927 with a red handle and serial № YM-U76222 with a black handle have been reported.



The labels on counterfeit extinguishers may be simply printed. Labels on genuine approved extinguishers will include a security imprint / texture behind the UL LISTED logo, classification, testing and approval data. Genuine Amerex Corporation extinguishers will have a pattern of scored “circles,” and genuine Buckeye Fire Equipment extinguishers will have the letter “S” scored into the label.

The bottoms of the counterfeits have a rounded curved-in lip as shown on the right side of the image on the right. The bottom of a genuine Amerex extinguisher is shown on the left side of the image. Genuine Buckeye extinguishers will have a date stamped on the bottom.



The counterfeit extinguishers have been reported to have black or red plastic handles. Genuine approved dry-chemical B-II extinguishers typically have handles that are constructed of silver-colored aluminum (although there are some with plastic handles).

Pressure gauges on the counterfeit units may be the wrong color. The gauges on genuine approved Buckeye dry-chemical extinguishers will have a red background.

Counterfeit extinguishers may have welded seams on the sides of the cylinders.

The Coast Guard believes that counterfeit production is not limited to Amerex Corporation and Buckeye Fire Equipment. There has been unconfirmed mention of a possible case with Badger portable fire extinguishers. However, at this time there have been no confirmed reports of counterfeit units from other manufacturers.

The Coast Guard **strongly recommends** that vessel owner / operators inspect their equipment. Inspectors, surveyors, owner / operators and others suspecting that they may have identified counterfeit extinguishers should contact the Coast Guard Office of Design and Engineering Standards immediately. Please provide a description of the suspect units, including if possible photographs showing full front, rear, and bottom views of the extinguishers, along with close-ups of all labels, and submit this information to typeapproval@uscg.mil with a copy to anticounterfeiting@us.ul.com.

This Safety Alert is provided for informational purposes and does not relieve any foreign or domestic requirement. Developed by the Lifesaving and Fire Safety Division, U.S. Coast Guard Headquarters, Washington, DC and distributed by the Office of Investigations and Causal Analysis,

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

December 31, 2012 Alert 05-12
Washington, DC

Pressure Switch Location for Fixed Fire Suppression Systems

Where's yours located?

This safety alert addresses the location of fire suppression system pressure switches aboard vessels. These critical components sense the activation of the system and then electrically secures the ventilation systems operating in the protected space. Securing the ventilation is essential in extinguishing a fire onboard a vessel. It assists in isolating the fire within the space, minimizes the introduction of additional oxygen to fuel the fire and prevents the loss of fire suppression agents from the space.

Recently, a vessel with an installed fixed CO_2 fire suppression system, suffered extensive damage due to a fire that started in the engine room. During the firefighting efforts the crew reported that the engine room ventilation could not be secured. A post casualty damage survey of the vessel revealed that the pressure switch used to secure the ventilation was located within the engine room. See the photograph of the damaged pressure switch at the right and new switch below.

Fixed CO_2 systems on inspected/regulated vessels need to be type approved and installed in accordance with applicable regulations; 46 CFR 25.30-15, 46 CFR Subpart 76.15, 46 CFR Subpart 95.15, 46 CFR 118.410, etc. These regulations require all controls and valves for the operation of the system to be outside the space protected, and notes they cannot be located in any space that might be cut off or made inaccessible in the event of fire in the protected spaces. The Coast Guard considers pressure switches that are used in such systems a "control."

For Uninspected Towing Vessels, 46 CFR 25.30-15 (b) requires installation in accordance with 46 CFR Subpart 76.15 and reiterates the location requirements.

The Coast Guard ***strongly reminds*** Owners and Operators of vessels with installed fixed fire suppression systems to ensure that these switches are properly located aboard their vessels. If the pressure switch or switches are located within the space being protected, they should be relocated by a properly trained fire suppression service technician. Doing so will assist in ensuring system functionality and accessibility in the event of an emergency. Failing to do so could have serious consequences to the vessel, its crew and the environment.

This safety alert is for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Commercial Vessel Compliance, Washington, DC. Questions may be addressed to CG-CVC-1@uscg.mil.

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

October 4, 2012 Alert 3-12
Washington, DC

PROBLEM WITH MUSTANG INFLATABLE PFDS

The Coast Guard has become aware of certain Mustang Survival Inflatable PFDs with Hammar MA1 hydrostatic (HIT) inflation systems which may not inflate and require a new re-arm kit to properly inflate by manual or automatic activation. This safety alert identifies which products are affected. Certain inflatable PDFs may be subject to delayed or non-inflations. To determine if you are impacted please follow the instructions below.

USCG Approval	*Mustang Product*
N/A	MA7214 HIT inflatable re-arm kit
N/A	MA7218 HIT inflatable re-arm kit for LIFT
160.076/8611/0	MD0450 Inflatable Vest PFD with LIFT
160.076/5204/0	MD0451 Inflatable Vest PFD with LIFT (no harness)
160.076/5201/0	MD3183 Deluxe Inflatable PFD with HIT
160.076/8608/0	MD3184 Deluxe Inflatable PFD with HIT (with harness)
160.076/5300/0	MD3188 Inflatable Work Vest/PFD with HIT
160.053/116/0	MD3188 Inflatable Work Vest/PFD with HIT

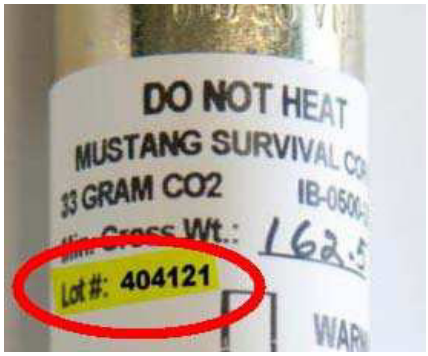
If you have a re-arm kit MA7214 or MA7218 you need only to check the lot number on the CO_2 cylinder label. If your CO_2 cylinder is marked with lot numbers 404121 or 404122 please contact Mustang Survival's customer service group at the number below.

If you have a PFD listed above refer to the sewn-in approval label to determine if it was "Made in Canada" and the "MFG DATE" is April or May 2012. If so, you will need to check the lot numbers of the CO_2 cylinder. The CO_2 cylinder lot number is visible through the yellow bladder fabric. Manually unpack your PFD by opening the zippers and unfolding your PFD. Find the CO_2 cylinder that is attached to the round inflator within the yellow bladder. Press the yellow bladder fabric against the cylinder to read the label to view the lot number through the fabric. If your CO_2 cylinder is marked with lot numbers 404121 or 404122, please contact Mustang Survival's customer service group for instructions and to arrange for a replacement inflator assembly.

All other CO_2 cylinder lot numbers are satisfactory. Repack your PFD so it is ready for use per the instruction manual. Mustang Survival Customer Service Group: 1-800-526-0532

Additional information is available at www.mustangsurvival.com/HIT. Please note the following photographs.

Photograph showing view of lot number through fabric.



Lot number on cylinder label.

This Safety Alert is provided for informational purposes and does not relieve any foreign or domestic requirement. Developed by the Lifesaving and Fire Safety Division, United States Coast Guard Headquarters, Washington, DC. For additional information contact Mr. Martin Jackson at Martin.L.Jackson@uscg.mil.

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Prevention Policy

June 20, 2012 Alert 02-12
Washington, DC

OVERLOADED LIFTING GEAR ON FISHING VESSELS

Recently, several catastrophic failures of masts, booms, and lift cables have occurred on purse seine fishing vessels that have resulted in loss of life and severe injuries. Over the years many casualties have occurred onboard all types of fishing vessels attempting to haul in catches that exceeded the capacity of their winches, hoists, and associated equipment. These types of casualties are not unusual. This alert serves to remind all purse seine fishing vessel owners/operators and other fishing segments to ensure safe use of the haul equipment particularly matching the size and the capacity of the nets to the rated size and capacity of the winch/haul/hoist equipment, taking into account safety factors for various species, and other concerns such as the variable platform that a rolling fishing vessel and variable catch presents.

Owners / operators, and vessel *Insurers* must ensure that vessel winch, haul and hoist systems are not modified by crew members to increase the lifting capacity beyond the rated design which in some cases can be done very easily. Such boosting of hydraulic systems must be prohibited and certain components should be protected with special seals. The machinery should be properly maintained and records kept in a historical log. It is imperative that owners / operators ensure every load bearing structure and its associated components are maintained in original condition, that they will be operated as designed using all appropriate safety margins for anticipated working conditions. All such equipment will experience fatigue over time and as result must be inspected and monitored routinely. Bearings, limit switches, brakes, safety devices, sheaves, cables and other components, should be routinely inspected by certified organizations.

For owners / operators of purse seine and other fishing vessels, the Coast Guard strongly recommends:

- Know the design limits of load bearing structures and winches, hoist, and haul components;
- Ensure they are not modified by crew members; properly maintained; and are inspected and tested on a regular basis. Repair/replace components immediately when deficiencies are discovered;
- Evaluate and revise operational procedures as needed.

This Safety Alert is provided for informational purposes and does not relieve any foreign or domestic requirement. Please visit http://fishsafe.info for additional fishing safety information.

Distributed by the Office of Investigations and Analysis: Http://marineinvestigations.us
To subscribe: Kenneth.W.Olsen@uscg.mil

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ADVISORY

ASSISTANT COMMANDANT FOR PREVENTION POLICY

June 21, 2012
Washington, DC

Advisory 01 -12

Recommendations for Recreational Diving Operations Occurring from Commercial Passenger Vessels

This advisory is addressed to Passenger Vessel Operators, Owners and Crewmembers providing commercial transport and support services to recreational divers, and reminds them of safety responsibilities to themselves and their passengers. Additionally, this advisory is intended to provide recommendations and lessons learned from recreational diving casualty investigations, and promote awareness of industry best practices.

While recreational diving is not regulated by the Coast Guard, the USCG licensed Master of a commercial vessel transporting Divers / Passengers is ultimately responsible and accountable for vessel and passenger safety. Administrative action can be taken against an operator if his or her unsafe actions or decisions lead to an injury or fatality.

Due to an increase in the number of fatalities associated with passenger vessels supporting recreational diving activities, the Coast Guard believes there is a need for improved safety and performance in this area. Accordingly, the Coast Guard strongly recommends that passenger vessel operators performing dive site transit services and recreational diving operations develop and use daily operational and maintenance procedures that cover recreational dive evolutions which may include:

- Loading and stowing dive gear;
- Loading passengers;
- Transiting to dive site;
- Dive pre-brief and dive planning;
- Knowing dive site specific risks and hazards;
- Pre-dive equipment checks;
- Entering water;
- Boarding vessel;
- Accounting for all divers;
- Departing dive site;
- Returning to port;
- Unloading passengers;
- Unloading gear;
- Duties and responsibilities of crew members; and
- Accounting for the safe return of all divers and passengers.

Fueling, emergency, man-overboard, firefighting, evacuation and diver rescue / recovery procedures should be included. Each member of the organization should have access to the written procedures and be trained on them. Owners and operators of a vessel providing dive equipment to passengers

should maintain equipment as required by the equipment manufacturer and keep this information together with a record of periodic inspections and tests performed.

If the vessel provides a diving guide or dive master, or if one is provided by the excursion party, it is recommended that a planning and coordination meeting be held between all involved to ensure the highest level of safety. Additionally, procedures are recommended to address the operator's approved range of operations taking into account the operational limitations of the vessel, the environmental conditions reasonably expected, the number and experience range of diving passengers, and the duration of a typical excursion.

It is important to note that while the passenger safety orientation requirements in 46 CFR 185.506 and 46 CFR 26.03-1 do not specifically include recreational diving topics, it is considered a best practice to do so. Additionally, it is recommended that the vessel operators account for the following prior to permitting the divers to enter the water, regardless of the experience level of those involved:

- Diver responsibilities;
- Vessel and crewmember responsibilities;
- Estimated time on site;
- Dive site orientation and hazzards;
- Communication procedures between submerged divers and vessel;
- Emergency procedures for distressed or disabled divers;
- General safety considerations unique to the vessel; and
- Environmental conditions to be expected.

Passenger vessels providing commercial transport and support services to recreational divers may use special equipment to ensure the safety of passengers such as rescue points for distressed divers. These components should be properly maintained, sufficiently sized and strengthened to support all personnel involved in the retrieval of a distressed or incapacitated diver. Enhanced medical / first aid equipment, such as medical oxygen for injured divers may be carried onboard. This equipment should be inspected regularly to ensure it is adequate for service. A logbook of inspection, maintenance, service, and repair should be kept for reference.

The Coast Guard encourages Owners / Operators, industry experts and associations to work together to develop and share best practices for passenger vessels providing commercial transport and support services to recreational divers in order to minimize injuries and the potential for fatalities.

This advisory is provided for informational purposes only and does not relieve any domestic or international requirement. This document was produced in collaboration with the Office of Operating and Environmental Standards, Office of Commercial Vessel Compliance and the Office of Investigations and Analysis, U.S. Coast Guard Headquarters, Washington, DC.

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

April 5, 2012 Alert 01-12
Washington, DC

Uninspected 6 or 12 pack Vessels – Rules Apply
Know Them!

The Coast Guard's Office of Auxiliary and Boating Safety has become aware of instances where recreational type boats are being manufactured and sold but do not meet federal construction requirements. In some cases persons holding Uninspected Passenger Vessel (UPV) Operator licenses are operating such vessels while carrying passengers for hire. This alert reminds UPV operators both six-pack and twelve pack, to ensure that they are aware that all vessels operated as UPVs are in compliance with the appropriate U.S. laws and regulations.

The laws applicable to UPVs are found at 46 USC 4105(a); recreational vessels are addressed in 46 USC Chapter 43. The regulations based on those laws are found in 33 CFR Parts 181 and 183 and are the minimum safety standards for recreational boat manufacturing and include the requirements for:

- certification
- identification of boats
- display of capacity information
- safe loading
- safe powering
- flotation requirements (for both inboard and outboard powered boats (including airboats))
- electrical systems
- fuel systems
- ventilation requirements
- start-in-gear protection
- navigation lights

It is the responsibility of U.S. Coast Guard licensed Masters that operate UPVs in passenger-for-hire operations to ensure compliance with all federal requirements applicable to the vessel.

Questions regarding this information may be addressed to Mr. Michael Jendrossek, Marine Investigator, (202) 372-1052 or michael.a.jendrossek@uscg.mil. Developed by the Office of Auxiliary and Boating Safety. This alert is provided for informational purposes only and does not relieve and domestic or international requirement. Distributed by the Office of Investigations and Analysis, USCG Headquarters, Washington, DC.

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

December 14, 2011 Alert 07-11
Washington, DC

Listen & Live / Develop & Follow Smart Safety Procedures

This alert reminds all maritime personnel of the dangers associated with working around or near moving machinery.

A recent marine casualty resulted in a death onboard a Great Lakes ore carrier. Two crewmembers had been working on clearing the vessel's sump pump bilge piping within a cargo conveyor belt tunnel. The piping ran vertically along the bulkhead adjacent to the conveyor belt. Because the clearance between the belt and piping was small, the crew had to step on a large pulley that was part of the system. Simultaneously, a shore-side contractor was working on the conveyor system in another part of the vessel and well removed from the crew working on the bilge piping.

Prior to undertaking the work, the person in charge and all involved working on or near the conveyor had taken some precautions to establish a sequence of audio alarms to use as an alert. It consisted of an initial alarm sounding the need to clear the belt, followed by another alarm notification five minutes later and just prior to starting of the conveyor.

While the crewmembers were working on the piping the initial alarm sounded and they removed their tools and got off of the belt. Shortly thereafter, one person went back on the belt to resume work. His co-worker emphatically told him to get off the belt several times but the he refused, stating that the audible tunnel alarm was not the conveyor belt alarm but rather a watertight door alarm which created a similar sound. The alarm sounded again, the belt started, and the crewmember was entangled in the conveyor system and killed.

In a very recent casualty another man was killed by entanglement with a conveyor system. Although this investigation is in its early stage it appears his arm was caught and severed within components of the conveyor. It is reported that no safety procedures existed pertaining to work on or around the conveyor system and that the deceased did not have a radio or other device to call for help.

Although the investigations are not yet complete and other causal factors may be discovered the Coast Guard **strongly recommends** that Owners/Operators, Classification Society Surveyors, vessel managers and those involved with the inspection of vessels to ensure that:

- regardless of how "its been done before," develop and implement operational, maintenance and repair procedures, including a focus on safety precautions for any element of vessel operations that presents a risk of injury or death;
- every crewmember working in remote spaces be provided with radio or similar communication devices to ensure instant communication with others onboard;
- effective lock out and tag out systems are utilized and involve all persons working on a particular system as responsible parties for the process and clearing;
- verbal acknowledgements from involved personnel of "All Clear" are required prior to the remote starting of any system when work is taking place on or near the system;

- work actually upon or near live machinery is prohibited while other work is being performed on the same machinery; and

For crewmembers, the Coast Guard **strongly recommends**:

- *Review frequently and ensure that safe work practices and procedures are always followed.*

- *If safe work procedures and safe working practices are not available request that they be developed. Study them, raise questions, don't embrace methods or procedures that present risk, even if it has always been done like that before.*

- *Listen to your shipmates when warnings of potential dangers are given.*

This Safety Alert is provided for informational purposes and does not relieve any foreign or domestic requirement. Developed and distributed by the USCG Office of Investigations and Analysis, Washington, DC. Questions may be addressed to HQS-PF-fldr-G-PCA@uscg.mil.

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

November 29, 2011 Alert 06-11
Washington, DC

MUSTANG SURVIVAL PFD RECALL NOTICE

RECALL NOTICE ON MD2010 & MD2012 model 22LB Inflatable Personal Flotation Devices
(USCG approval nos. 160.076/8922/0 and 160.076/4028/0 respectively)

The United States Coast Guard **strongly urges** mariners and boaters alike to check their Mustang Survival PFDs. Mustang Survival is voluntarily recalling all model number MD2010 and MD2012 inflatable Personal Flotation Devices (PFD's) sold in the United States during 2011. To determine if you are impacted by this recall please reference the images below:

Image 1) Any inflatable product with multiple white sewn on safety labels on the **back is OK** and is not affected by this recall.

Image 2) If your inflatable does not have white sewn on safety labels, please check for model number MD2010 or MD2012 on the back of the PFD then refer to Image 3.

Image 3) MD2010/MD2012 models with an "MIT" *(Membrane Inflatable Technology)* stamp **(in black or color) above the CO2 cylinder is OK.**

BUT - Any MD2010/MD2012 missing the "MIT" stamp should be returned to Mustang

Image 1 Product with white labels are not part of this recall.	**Image 2** Check for the model number on the back of the PFD above the UL logo.	**Image 3** Any MD2010 or MD2012 with an "MIT" stamp is OK to use and does not need to be returned.
		

This recall is being issued for the inspection and repair of an inflator installation inconsistency that may prevent some units from fully inflating with CO2 (oral inflation functions normally). Mustang Survival has developed a solution that corrects any affected product and prevents re-occurrence of this issue. The inspection and repair can only be performed at a Mustang Survival factory.

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To subscribe: Kenneth.W.Olsen@uscg.mil

This recall notification is for only the MD2010 and MD2012 22LB buoyancy inflatable PFDs. No other Mustang Survival products are affected as they utilize different inflator mechanisms.

All MD2010 and MD2012 PFD's without the stamped MIT logo as shown in Image 3 (above) should be returned to Mustang Survival for inspection.

Distributors and consumers are urged to contact Mustang Survival's Customer Service department at 1-800-526-0532 between 7:30am and 4:30pm PST, Monday through Friday for specific shipping instructions. Mustang Survival will pay for all testing, repair and shipping costs. **Consumers should not return product to their dealer**. If you have questions, please access Mustang Survival's website at www.mustangsurvival.com/22lb-product-notice .

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

September 20, 2011 Alert 05-11

Washington, DC

Parasailing Operations

Know your ROPES

A series of parasail incidents resulting in fatalities and injuries have occurred over the last few years. Several marine casualty investigations are ongoing and some are near completion. Common causal factors are being identified in addition to causal factors that are unique to a specific event. The Coast Guard believes that communication of known issues is essential in minimizing potential future casualties and **strongly reminds** parasail operators and those associated with the business of the following:

Remember that most parasail fatalities and injuries are related to the failure of the towline. Failures occur significantly below the rated towline strengths due to a variety of reasons that may include cyclic loading, long term exposure to environmental elements, the presence of knots, and overloading.

Observe and monitor weather conditions continuously. Most frequently increases in wind speed impact the relative speed against the chute and cause the overloading. As the wind speed doubles the load on the towline may quadruple. Monitor your VHF radio weather channel and learn to interpret the effect of wind speed on the water surface. Note the formation of squalls, thunderstorms, or when larger weather fronts are expected to pass through your operational area. Cease operations well before such weather features impact your operation.

Prepare for emergencies by having well documented procedures applicable to a variety of circumstances, normal operations and emergencies such as towline breaks, winch failures, propulsion failures, and other concerns that can impact your own or your passenger's safety. Regularly perform drills to ensure expert proficiencies in accomplishing all emergency or routine procedures.

Ensure that all of your equipment is properly maintained on a continuing basis. This includes the winch, and drive motor, hydraulic brakes, hoses and piping, spooling systems, and other tackle. Also check your chute, harness, and related components for stitching failures, degradation, and the need for general repairs. Immediately repair and correct identified problems.

Safety is up to you the Operator. ***The Coast Guard does not regulate or inspect parasail equipment or regulate parasail operations.***

The Coast Guard recognizes that there are *many other* issues associated with this sport and encourages owners and operators to work with each other and related industry associations to share best practices and develop safe operational standards to minimize potential injuries and deaths. Coast Guard Licensed Operators are *expected to provide an adequate level of care* during vessel operations. *Administrative action may be taken against the operator* if his or her unsafe actions or decisions lead to a casualty.

This alert is provided for informational purposes only and does not relieve and domestic or international requirement. Developed by the Office of Investigations and Analysis, USCG Headquarters, Washington, DC.

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To subscribe: Kenneth.W.Olsen@uscg.mil

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

September 1, 2011 Alert 04-11
Washington, DC

MARINER'S SAFETY ENDANGERED

WHEN VHF RADIO DISTRESS ALERTS BY DIGITAL SELECTIVE CALLING (DSC) LACK LOCATION AND IDENTIFICATION INFORMATION

As the Coast Guard's new marine radio network Rescue 21 becomes operational throughout the U.S., rescue centers can now receive instant distress alerts from commonly used DSC-capable VHF marine radios. However, approximately 90% of VHF DSC distress alerts received by the Coast Guard do not contain position information, and approximately 60% do not contain a registered identity. The Coast Guard cannot effectively respond to a DSC distress alert sent from such a radio.

This means that search and rescue efforts may normally be suspended when:

- no communications with the distressed vessel can be established,
- no further information or means of contacting the vessel can be obtained from other sources, and
- no position information is known.

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HELP US HELP YOU

FIRST Obtain a Maritime Mobile Installation Identity (MMSI) and enter it into your radio. MMSI numbers are issued by the Federal Communications Commission if your vessel otherwise requires a station license, or BOATUS, (http://www.boatus.com/mmsi), Sea Tow (http://www.seatow.com/mmsi), or the U.S. Power Squadrons (http://www.usps.org/php/mmsi). Ensure any information originally provided is updated as changes occur. FCC regulations require that DSC-equipped radios "use MMSIs assigned by the Commission or its designees" (47 CFR 80.103(b)).

THEN Interconnect your radio to a GPS receiver using a two-wire NMEA 0183 interface on all DSC-equipped marine radios and on most GPS receivers. Instructions should be provided in the radio and GPS operators manual. Further information is provided and will be routinely updated in http://www.navcen.uscg.gov/?pageName=mtDsc.

Developed by the Spectrum Management and Telecommunications Policy Division (CG-652), United States Coast Guard Headquarters, Washington, DC. Questions should be directed to Mr. Russell Levin at (202) 475 3555 or Russell.S.Levin@uscg.mil.

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

May 20, 2011 Alert 04-11
Washington, DC

High Velocity Vent Valves, Vacuum Valves, P/V Valves

Simple to check, easy to maintain, don't let them be a problem again.

A recent marine casualty resulted in significant damage to tank structures, piping and components of a combination chemical / oil product carrier. Vessel-to-vessel loading operations were taking place at anchorage and one tank became over-pressurized. Subsequently, three cargo tanks and three ballast tanks on the ship suffered catastrophic structural failures that allowed hazardous cargo to migrate throughout those areas. This incident caused the vessel to list and created a very dangerous explosion hazard requiring costly and time-consuming lightering and repair operations. Additionally, it presented a hazard to the port and persons involved.

The investigation is nearly complete and investigators have identified several causal factors, one being the failure of the high velocity vent valve which did not open and prevent over pressurization of the tank while it was being filled.

The high velocity vent valve is part of the pressure / vacuum protection piping of the cargo tank. It prevents damage to cargo tanks by normally staying closed and only opening at a preset positive pressure. Large shipboard tanks can be easily damaged by relatively low pressures. Use of these valves minimizes such occurrences. Other benefits of the valve being in a closed position is that breathing of the tank is minimized thus preventing unwanted cargo vapor releases into the atmosphere, protecting the environment and limiting the loss of cargo due to vaporization. The valves are also equipped with flame screens to prevent explosions due to ignition. The vacuum breaker component of pressure / vacuum protection piping of the cargo tank similarly protects the tank by preventing excessive vacuum from being formed.

After this specific casualty, the high velocity vent valve of the tank being filled was found stuck closed and inoperable using the manual test lever. A valve for another tank was also found stuck. Scientific testing of the substance between the stuck valve disc and the seating surfaces indicated the presence of oxidized vegetable oil or fat likely from previous cargos. It appears doubtful that crewmembers exercised the valves prior to their cargo operations as per their operating procedure.

As a result of this casualty and others involving similar circumstances, the Coast Guard **strongly recommends** to vessel Owner / Operators, Crewmembers, Classification Society Inspectors, Vetting, and other inspection personal ensure that tank high velocity vent valves and vacuum valves, or combination pressure / vacuum valves are maintained in operating conditions at all times and are routinely checked as procedures require.

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

May 6, 2011 Alert 03-11
Washington, DC

PROVIDING CPR – NO TIME TO WASTE

This Safety Alert serves as a reminder to the international maritime community that *when it is necessary to provide a patient Cardiopulmonary Resuscitation (CPR) there is simply no time to waste.* Every second which passes affects the patient's chance of survival. According to the American Heart Association:

- Sudden cardiac arrest is most often caused by an abnormal heart rhythm called ventricular fibrillation (VF). Cardiac arrest can also occur after the onset of a heart attack or as a result of electrocution or near drowning. When sudden cardiac arrest occurs, the victim collapses, becomes unresponsive to gentle shaking, stops normal breathing and after two rescue breaths, still isn't breathing normally, coughing or moving.

- Effective bystander CPR, provided immediately after sudden cardiac arrest, can double or triple a victim's chance of survival.

- Effective bystander CPR helps maintain vital blood flow to the heart and brain and increases the amount of time that an electric shock from a defibrillator can be effective.

- Brain death starts to occur four to six minutes after someone experiences sudden cardiac arrest if no CPR or defibrillation occurs during that time.

- If bystander CPR is not provided, a sudden cardiac arrest victim's chances of survival fall 7 percent to 10 percent for every minute of delay until defibrillation.

- Few attempts at resuscitation are successful if CPR and defibrillation are not provided within minutes of collapse.

For additional information access the following websites:

American Heart Association http://www.heart.org **American Red Cross** http://www.redcross.org

Regardless of other CPR training requirements, such as basic safety training required by STCW-95 for certain mariners, the Coast Guard **strongly recommends** that all vessel owners and operators ensure each crew member is properly trained in CPR. Important changes to CPR procedures have taken place in late 2010.

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Office of Investigations and Analysis: http://marineinvestigations.us
To subscribe: kenneth.w.olsen@uscg.mil

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

February 14, 2011
Washington, DC

Alert 02-11

Air Receivers and Relief Valves

A reminder that shouldn't be necessary!

This Safety Alert addresses safety issues relating to air receivers on Uninspected Towing Vessels (UTV), but may apply to air receivers on any vessel. Air receivers, regardless of specific use onboard a UTV, contain extreme amounts of potential energy; an uncontrolled release of this energy may lead to serious injury, death and catastrophic vessel damage. Although this issue involves basic safety and good marine practice, too many related problems have been recently discovered.

Not long ago, an air receiver unexpectedly ruptured with terrible results onboard an UTV on the Upper Mississippi River. A crewmember was seriously injured and paralyzed. Several causal factors were noted during the casualty investigation; the lack of a relief valve to protect the system and significant corrosion within the receiver. It's important to note that on unprotected systems, all it takes for the system to be over-pressurized is for the compressor's pressure switch/contactor or unloader to fail and not shut off the machine. Further, internal corrosion on aged tanks present a latent unsafe condition and may go unnoticed if not inspected. (Parted air receiver.)

As a result of this casualty and other similar incidents, the U. S. Coast Guard **strongly recommends** that UTV Owner/Operators, vessel engineers, insurance surveyors and other inspectors **ensure** that:

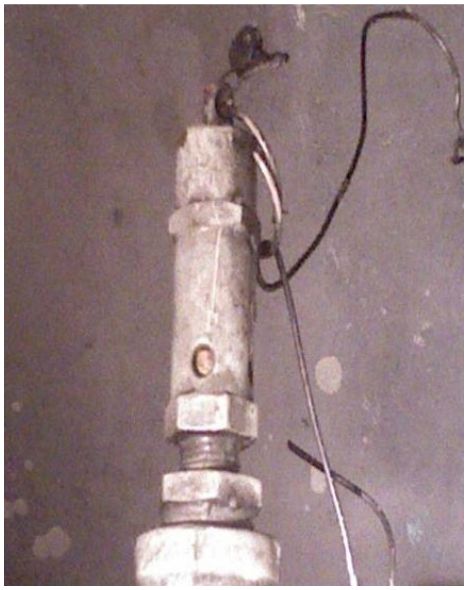
- A proper sized pressure relief device is installed on all air receivers. The pressure relief device should not be rated higher than the Maximum Allowed Working Pressure (MAWP) stamped on the air receiver's data plate;

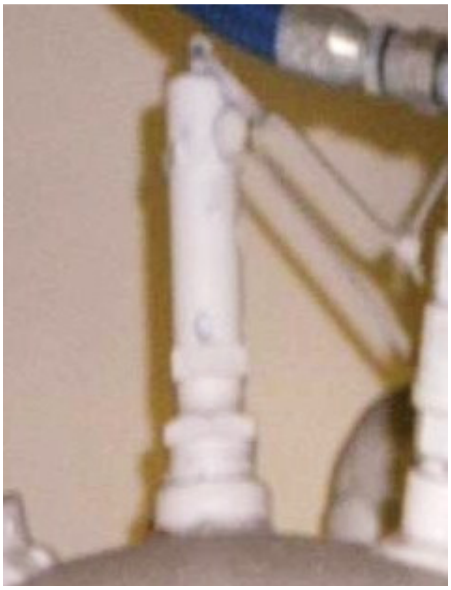
- A data plate is attached to the receiver and pressure relief devices. If missing or damaged the UTV representative should provide evidence to prove the components were constructed to an approved standard. Otherwise this equipment should be taken out of service or replaced;

- The data plate associated with the receiver and pressure relief device remain unpainted and legible. Take care to minimize damage to the plates if paint needs to be removed. Pressure relief devices should not be painted as paint can interfere with the lifting of the valve. Those that are painted should be lift tested to ensure proper operation;

- Pressure relief devices are not capable of being isolated or their operation prevented by being wired or secured in a position that prevents the valve from opening;

RELIEF VALVES MUST NEVER BE SECURED IN THE CLOSED POSITION





- Each receiver is equipped with a drain valve to remove condensate and all crewmembers making rounds in the machinery space are instructed to drain the condensate as part of their regular machinery space duties;

- All repairs and alterations to air receivers and pressure relief devices are conducted by companies holding the National Board of Boiler and Pressure Vessel "R" Certificate for air receivers and the "VR" Certificate for pressure relief devices; and

- Owner/Operators establish maintenance programs based on the manufacturer's recommendations for such equipment that includes routine internal and external receiver inspections. External inspections should include surface examinations for evidence of deterioration such as cracks, blisters, corrosion erosion, dents, etc., with particular attention to the support attachments and welds.

Owner/Operators should be aware of these potential safety hazards and take proper action as needed. Failure to address these concerns could result in a hazardous condition, and the Coast Guard determining Operational Controls are necessary. If in doubt, contact your local Coast Guard office or the Towing Vessel National Center of Expertise at (270) 444-7715.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Towing Vessel National Center of Expertise. Distributed by the U.S.C.G. Headquarters Office of Investigations and Analysis, Washington, DC. Questions may be addressed to HQS-PF-fldr-G-PCA@uscg.mil.

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

January 31, 2011 Alert 01-11
Washington, DC

INSPECTION OF FUEL OIL QUICK-CLOSING VALVES

U.S. Coast Guard Port State Control Officers (PSCOs) are discovering Fuel Oil Quick-Closing Valves (QCVs) intentionally blocked, modified, and poorly maintained preventing them from operating as designed during an emergency.

QCVs are positive shutoff valves on fuel oil systems serving to isolate fuel tanks in the event of a fire and also prevent "fueling" of a fire in circumstances where system piping and components are compromised. In some circumstances they could be the only means of securing the fuel to a flammable liquid fire. These valves are designed to be remotely operated. Inoperable QCVs create a very serious hazardous condition putting the vessel and its crew at greater risk in the event of a fire. Blocking or disabling these valves is unacceptable under any circumstance. It is absolutely critical that they operate correctly, are maintained, and ready for use at all times. Proper routine maintenance, and in some cases approved modifications and / or replacement of components may be necessary to ensure reliability of the remote operator and closure of the valve.

Owners /operators, vessel engineers, PSCOs, Class society and other machinery space inspection personnel must fully understand the critical nature and importance of QCVs and associated systems. Crewmember knowledge of testing, operation, maintenance and repair, in addition to related documentation and required spare parts are essential elements to evaluate during an inspection. International regulations require that positive shutoff valves located outside the fuel tank be capable of being closed from a safe position from outside the space concerned..

The U.S. Coast Guard **strongly recommends** that owners /operators, vessel engineers, PSCOs, Class society and other machinery space inspection personnel ensure:

a) The QCV operating system is capable of remotely closing all valves as designed; some systems close valves sequentially and others simultaneously.

b) There is a maintenance plan in place including technical manuals containing diagrams and information that describe the system components, required spare parts, operation, maintenance and repair.

c) That all engine department personnel can identify the location of each valve, the respective remote closure and how to close them locally and remotely in an emergency.

Note: During Coast Guard PSC Exams, vessel engineers should be able to explain maintenance requirements of the system, and provide operational test and maintenance records. Engineers should be able to describe how test the valves, reset them after closure, and understand their operational importance. Vessels with inoperable QCVs may be subject to an operational control.

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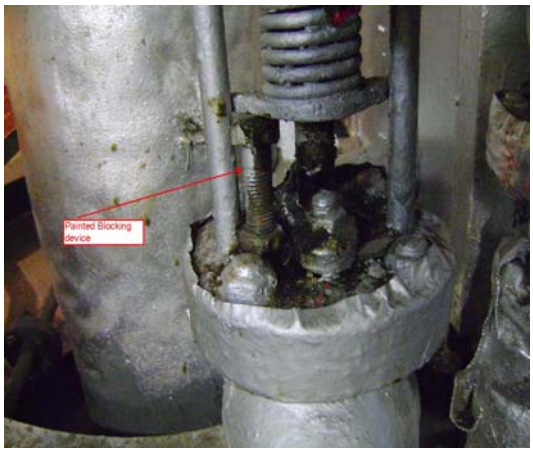
Examples of QCVs held in the open position:



QCV blocked utilizing a bolt to hold in the open position. (Note: the painted portion on the bolt indicating possible long term condition.)

QCV blocked utilizing wire to hold closing weight up and the valve in the open position.

QCV blocked utilizing a wooden block to hold the valve in the open position.

Photos are courtesy of U.S. Coast Guard Sector New Orleans

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

December 21, 2010 Alert 10(a) -10
Washington, DC

WRONG DIRECTIONS: A RECIPE FOR FAILURE

Safety Alert 1 of 2

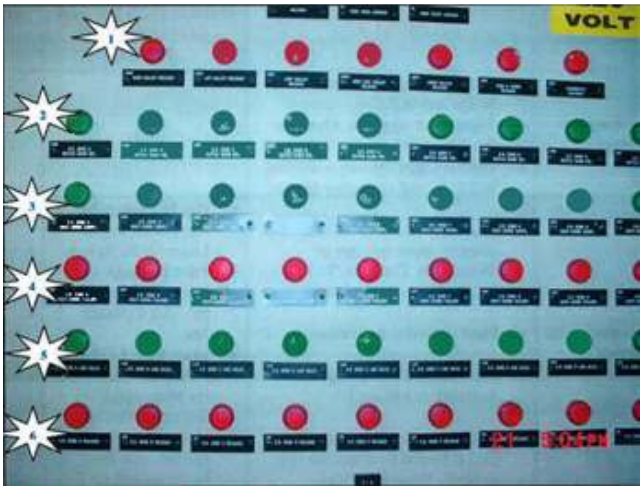
This safety alert addresses critical concerns uncovered during an ongoing marine casualty investigation and should be of vital interest to Ship Builders, Classification Societies, Owner / Operators and others involved with vessel operations.

A machinery space fire onboard a relatively new vessel was effectively responded to and extinguished by the vessel's quick response team firefighters using portable extinguishing equipment. However, before it was declared completely extinguished and approximately five hours after the fire started, the master of the vessel made the decision to release CO_2 from the vessel's fixed firefighting system. It failed to operate as designed. Subsequently, crewmembers were unable to activate it manually and CO_2 was never directed into the machinery space.

While the casualty investigation remains ongoing, the following issues were discovered that could have negatively affected the crew's emergency response and may have contributed to the CO_2 system failure.

- Shipyard commissioning test procedures appear to differ from procedures documented in the vessel's Firefighting Instruction Manual (FIM). Commissioning procedures indicate that the discharge line selection to a specific protected zone should be made prior to releasing the gas contrary to the directions in the FIM.

- The FIM refers extensively to a Control Panel (left following image) that differs vastly from the one onboard the vessel (right following image).



- The FIM states that the CO2 Release station is on the Starboard side of the vessel when In fact it is located on the Port side.

- The FIM incorrectly uses the word “Pull” when it should read “Turn” in reference to the operations of valves.

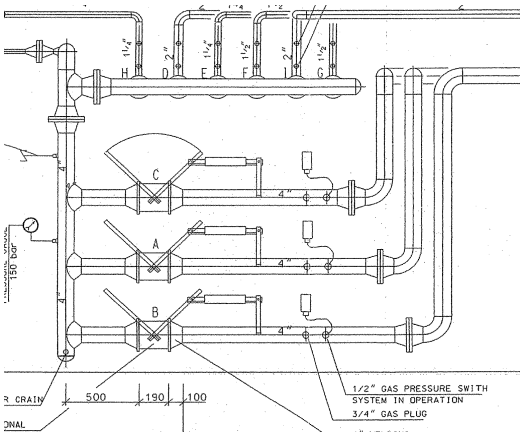
- The FIM contains the following confusing language “Once the fire has been extinguished make sure that the temperature has decreased before investigate the area same time is needed to wait hours.”

- The FIM references elements of an Emergency Shut Down (E.S.D.) graphic on numerous occasions. However, the graphic display was not found on the vessel.

- The FIM contains photographs of the internals of the CO2 release stations that appear to differ from actual CO2 release stations onboard the vessel.

- The CO2 release stations installed on the vessel have instructional placards that refer to elements of a completely different control panel then the one used onboard the vessel.

- Shipyard piping schematics and drawings do not appear to match the actual installation. The schematic at the right shows the “A valve” for the Aft Machinery Space in the center position vice the bottom position as it is installed on the vessel.



Because of these and other issues, the United States Coast Guard **strongly recommends** that Vessel Builders / Shipyards, Classification Societies, Insurers, Owners / Operators, System Service Personnel, and others involved with these systems:

- Ensure that all supporting documentation, piping schematics, plans, manuals, component labeling and instructions are consistent with each other and relevant to the systems, equipment, and components installed onboard the vessel.

Developed by the U.S. Coast Guard Headquarter’s Office of Investigations and Analysis, Washington, DC. Questions may be addressed to HQS-PF-fldr-G-PCA@uscg.mil.

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

December 21, 2010 Alert 10(b)-10
Washington, DC

SIMPLE FAILURES RENDER CO2 SYSTEM INOPERATIVE

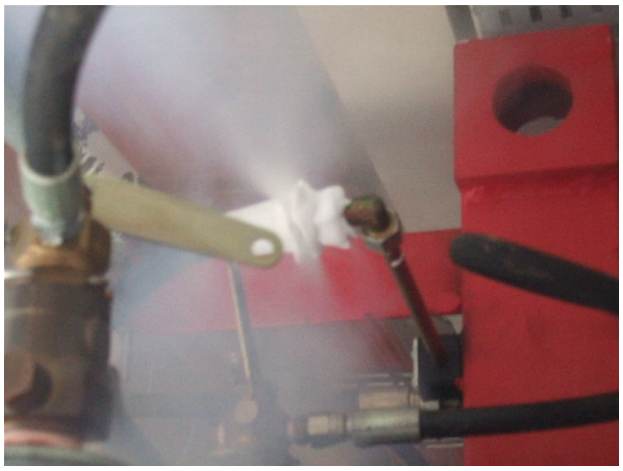
Safety Alert 2 of 2

This safety alert addresses concerns discovered during an ongoing marine casualty investigation and may be of interest to Ship Builders, Classification Societies, Owner / Operators and others involved with vessel operations.

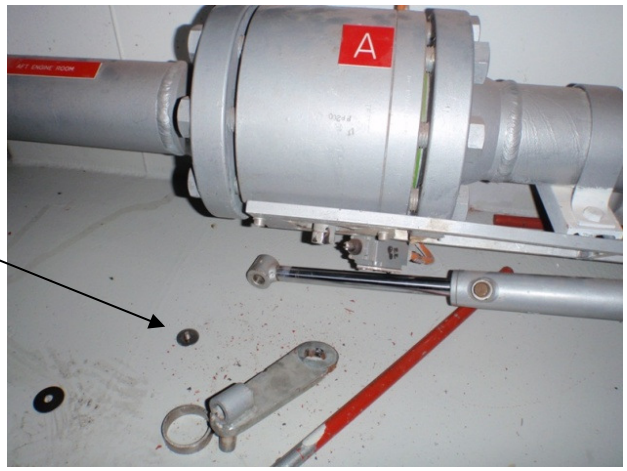
A machinery space fire onboard a relatively new vessel was effectively responded to and extinguished by the vessel's quick response team firefighters using portable extinguishing equipment. However, before it was declared completely extinguished and approximately five hours after the fire started, the master of the vessel made the decision to release CO2 from the vessel's fixed firefighting system. It failed to operate as designed. Subsequently, crewmembers were unable to activate it manually and CO2 was never directed into the machinery space.

The following issues pertaining to the CO2 system were discovered.

- Numerous piping and hose connections leaked extensively. When the system was activated, on scene video taken by the firefighters showed numerous leakages into the CO2 room. Post casualty, while pressure was still on the system, some of these leaks continued even after the connections were tightened. (Photograph at right.)



- The zone valve for the aft machinery space which admits CO2 from the bottle bank manifold to the space failed. Specifically, the ball valve's opening actuating arm fell off the valve when the gas powered piston actuator attempted to move it. The ball valve actuating arm was held in place by a very small machine screw and washer. When firefighters attempted to open the valve manually using the provided hardware it could not be moved. The valve was only able to be moved after the gas pressure was relieved from the inlet side of the valve. (Photograph at right.)



- Actuating arms to five of the six other zone valves were found loose. They were also attached by small machine screws. (Photograph at right.)

- Hemp type pipe sealant was used extensively on pipe threads throughout the system and in some instances seems to have entered the system. (Photograph at right.)

- Certain elements of the distribution manifold contained low points which allowed the accumulation of water within piping that could not be drained. Such a circumstance could cause corrosion that could possibly negatively effect operation of other components. (Photographs at right.)

- The CO2 system's pilot and co-pilot bottles did not appear to operate correctly according to the firefighters involved and thus had to be manually activated using the valve handles located on top of the cylinders. Additionally, during the event, the bank bottles were similarly activated due to the uncertainty of their release. At least one pilot bottle activation hose was reported to have leaked.

- The system had been recently serviced and inspected by an authorized service provider.

Because of these and other issues, the United States Coast Guard **strongly recommends** that Vessel Builders / Shipyards, Classification Societies, Insurers, Owners / Operators, System Service Personnel, and others involved with these systems:

- Carefully and critically review, routinely inspect and maintain, verify and test their Fixed Fire Fighting installations to ensure that they will operate correctly during an emergency.

Developed by the U.S. Coast Guard Headquarter's Office of Investigations and Analysis, Washington, DC. Questions may be addressed to HQS-PF-fldr-G-PCA@uscg.mil.

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

December 15, 2010 Alert 09-10
Washington, DC

TYPE I PERSONAL FLOTATION DEVICE STRAP CHECK

Recent Coast Guard inspections of Type I Personal Flotation Devices, (PFDs) in both adult and child size, identified a potential hazard that could prevent proper donning in the event of an emergency. The chest strap was threaded through the fixed "D" ring that the strap is intended to clip to when worn. *(Image left)*

It was discovered that several PFDs were assembled this way at the factory and if not corrected could create a hazardous condition during an emergency when they are donned.

Instead of the strap falling away, allowing the wearer to wrap it around him or her, the clip end of the strap could snag in the "D" ring preventing the wearer from getting it around their body. *(Following image)*

(*PFDs shown on this page are for example purposes only and are not Kent models.)*

Manufacturer, Models and Lot Numbers known to be affected:

Kent Adult Model 8830 (USCG Approval Number 160.055/184/0) in Lot 53W manufactured in October 2006

Kent Child Model 8820 (USCG Approval Number 160.055/150/0) in Lot 012T manufactured in March 2008

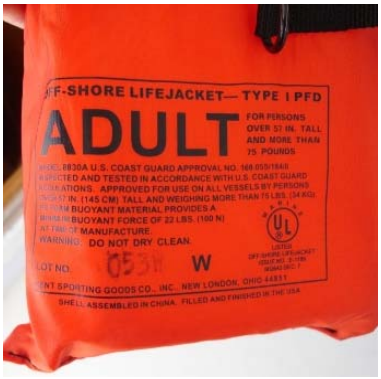
The Coast Guard **strongly recommends** that vessel owners/operators using the PFDs listed above check each lifejacket for proper routing of the strap. Completely unwrap the primary strap to ensure it is free and capable of being adjusted for any wearer. The strap of the lifejacket must not be threaded through the fixed "D" ring. If routing is satisfactory, the strap may be wrapped around the life jacket and clipped to the fixed "D" ring for storage. *(Right image)* If the strap is incorrectly threaded through the fixed "D" ring, the snap hook assembly should be carefully removed from the strap, the strap pulled out of the fixed "D" ring, and the snap hook assembly re-attached.

Vessel owners/operators are also encouraged as part of general preventative maintenance to verify that all their PFDs are in fully serviceable condition with an inspection of the straps, components, fabric and flotation material. Any significant deterioration in condition or poorly functioning hardware indicates a replacement is necessary.

Please contact the manufacturer representative at the address below if additional information is needed.

Kent Sporting Goods Co.
433 Park Avenue S.
New London, OH 44851
Mr. Wayne Walters
Phone: (706) 769-1682)
E-mail: WWalters@kentwatersports.com

Developed by the United States Coast Guard Headquarters Lifesaving and Fire Safety Division with assistance from the Office of Investigations and Analysis. Questions may be addressed to Mr. Martin L. Jackson: Martin.L.Jackson@uscg.mil. or 202.372.1391.



Kent Sporting Goods Lifejackets Shown Above

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

September 30, 2010 Alert 8-10
Washington, DC

SHIP SECURITY ALERT SYSTEM (SSAS)
Is your system ready?

The U.S. Coast Guard **strongly recommends** that owners, operators and/or others involved with the technical examination and testing of a Ship Security Alert System (SSAS) fully understand the critical nature and importance of this system. A SSAS must be serviced and maintained in order to be fully operational in the event of an emergency.

Safety of Life at Sea (SOLAS), Chapter XI-2/6 mandates the carriage of shipboard equipment for sending covert alerts indicating the security of the ship in under threat or has been compromised (such as piracy, terrorism or armed robbery). SOLAS requires that the SSAS is capable of being activated from the navigation bridge and in at least one other location. The SSAS should conform to performance standards equivalent to those adopted by the International Maritime Organization (IMO).

An investigation into a recent Breach of Security (BOS) onboard a vessel operating overseas revealed that the system did not function properly. It was discovered that the primary activation button failed to send the BOS message and that when the secondary location activation button was depressed, not all critical data was transmitted. Under other circumstances, this type of failure could have been disastrous and resulted in significant harm to the crew.

Although the SSAS was serviced two days prior to the incident as a part of the annual Safety Radio Survey, records indicate that the technician did not have the proper testing equipment for the system on board and only an internal operational self-test was carried out and accepted. A complete SSAS survey with an external test would have indentified the system faults which then could have been corrected prior to the incident.

The SSAS survey should always be performed by a fully qualified technician who has adequate knowledge of the International Ship & Port Facility Security (ISPS) Code pertaining to SSAS, the SOLAS Convention and the IMO standards for SSAS. A technician's survey should involve checks for:

a) compliance with IMO performance standards,
b) a minimum of two activation points are provided,
c) transmission of the security alert is possible without an adjustment of the radio system,
d) transmission initiated by the SSAS activation points include a unique/identifier,
e) transmission includes the ship identity and current position associated with a date and time,
f) when activated, SSAS continues the alert until deactivated and/or reset,
g) SSAS is capable of being tested, and
h) SSAS power source is powered from the ship's main source of power and is also capable of operation from an alternate source of power.

The U.S. Coast Guard **strongly recommends** that owners and operators ensure that the SSAS survey completed on board involves the checks listed above and that if deficiencies are identified, they be corrected immediately.

This Safety Alert is provided for informational purposes only and does not relieve any mandates of domestic or international safety, operational or material regulations or standards. Developed by the Office of Vessel Activities (CG-543), Distributed by the Office of Investigations and Analysis (CG-545), United States Coast Guard Headquarters, Washington, DC. Questions may be addressed to LCDR James Fogle at James.T.Fogle@uscg.mil.

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

August 28, 2010
Washington, DC

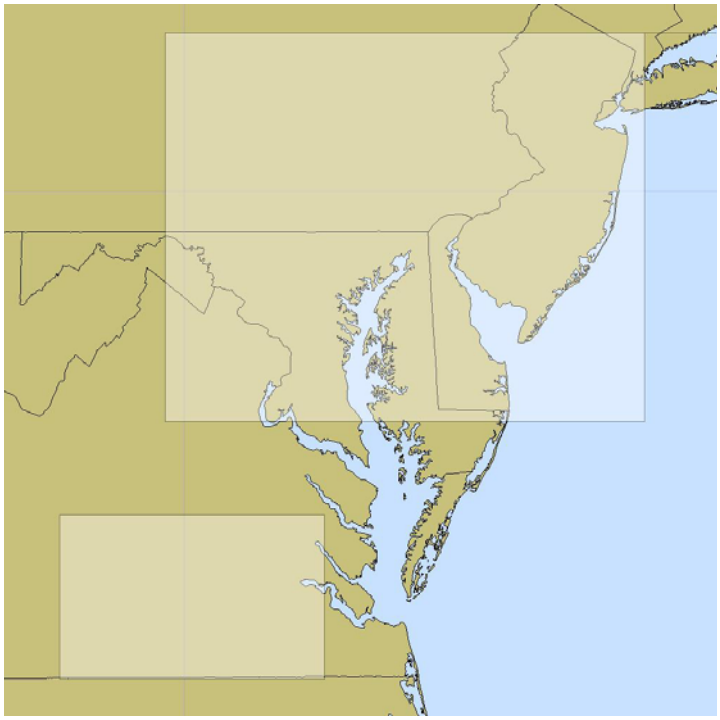
Alert 7-10

CAUTION TO AIS USERS

NAVIGATING THE JAMES RIVER, YORK RIVER, UPPER CHESAPEAKE BAY, DELAWARE BAY, NEW JERSEY SHORE, AND, NEW YORK HARBOR AND APPROACHES

YOU MAY BE INADVERTENTLY OPERATING ON DIFFERENT AIS CHANNELS

Between July 27 and August 19, 2010, while conducting development testing of its Nationwide Automatic Identification System (NAIS), the Coast Guard inadvertently tele-commanded most AIS users transiting the Eastern United States between lower Connecticut and North Carolina to switch to AIS frequencies other than the AIS default frequencies (161.975 MHz - Channel 87B - 2087 and 162.025 MHz - Channel 88B - 2088). As a result, those users within uniquely defined channel management regions (as shown in the picture) will neither see nor be seen by vessels operating on the default AIS channels when within these regions. Similarly, vessels operating on default frequencies will not see or be seen by those vessels that were inadvertently switched to other frequencies. No other AIS users or areas are impacted.



One of the lesser known and potent features of AIS is its ability to operate on multiple channels within the VHF-FM marine band. This frequency agility ensures AIS can be used even when the default channels are otherwise unavailable or compromised. In such conditions, competent authorities, such as the Coast Guard, can use an AIS base station to tele-command shipborne AIS devices to switch to other more appropriate channels when within defined regions of 200 to 2000 square nautical miles. This can be done automatically (and without user intervention) through receipt of the AIS channel management message (AIS message 22) or manually entered via the AIS Minimal Keyboard Display (MKD) or similar input device. Once commanded or manually entered, the channel management information will stay in memory for 5 weeks or until an affected vessel moves more than 500 nautical miles from the defined region. AIS channel management commands can only be manually overridden or erased by the user via the unit's channel (regional frequencies) management function[1] or automatically overridden via another channel management

message for the same defined region. Reinitializing or resetting your AIS or transmission channels will not necessarily reprogram your unit back to the default channels.

Commencing September 1st and continuing for the subsequent 5 weeks, the Coast Guard will broadcast new channel management messages that will tele-command all AIS users back to default channels. This broadcast will occur each hour between hh.05:30 and hh.05:59, but may change as needed. To ensure that these messages are received, they will be broadcast on Channel 70--Digital Selective Calling (DSC), which is also monitored by all type-certified shipboard AIS. While this will ensure all AIS users will get the message regardless of what AIS channel the unit is operating on, it could however cause a minor inconvenience to owners of older DSC radios who may receive an alert (tone) upon receipt of this message. It will have no other effect on DSC radios.

AIS users are encouraged to inform others whom they believe may be affected and are therefore not being seen by others. All AIS users are reminded to maintain their AIS in effective operating condition and to validate their AIS data prior to each voyage and as needed.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. The Coast Guard has developed policy and procedures to ensure such inadvertent broadcast do not happen again and we apologize for any inconvenience this may have caused. For further information on AIS Channel Management or reprogramming your AIS read FAQ#19 at www.navcen.uscg.gov/?pageName=AISFAQ#19 or contact cgnav@uscg.mil. Developed by the Office of Waterways Management, U.S. Coast Guard Headquarters, Washington, DC.

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Office of Investigations and Analysis: http://marineinvestigations.us
To subscribe: kenneth.w.olsen@uscg.mil

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[1] The following settings, if found in your AIS Channel Management / Regional Frequency pane, should be overridden (as denoted) prior to navigating therein; if you do not find these settings / regions in this pane you are not affected and need do nothing.

Setting / Region X (MD, DE, PA, J, NY Area)
NE Corner: 41º 07.60 N, 073º 49.10’ W (41.1266667 -73.8183333)
SW Corner: 38º 21.90’ N, 078º 10.40 W (38.3650000 -78.1733333)
Channel 1/ A / AIS1: 1022 / Ch.22B [should be change to 2087 / 87B]
Channel 2 / B / AIS2: 2022 / Ch.22 [should be change to 2088 / 88B]

Setting / Region Y (VA Area)
NE Corner: 37º 42.00' N, 76º 43.80' W (37.7000000 -76.7300000)
SW Corner: 36º 32.00' N, 79º 8.00' W (36.5333333 -79.1333333)
Channel 1 / A / AIS1: 1027 / Ch.27B [should be change to 2087 / 87B]
Channel 2 / B / AIS2: 2006 / Ch.6 [should be change to 2088 / 88B]

UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

June 9, 2010 Alert 06-10
Washington, DC

EXPLOSIVES SAFETY GUIDE
RECOGNIZE, RETREAT, REPORT

Just days ago, a 145 foot commercial fishing vessel operating in the vicinity of Hudson Canyon, located South of Long Island, New York dredged up 10 old (circa 1914) munitions canisters that contained mustard gas. One of the canisters broke open while it was being brought onboard the vessel and four crewmembers were exposed to the gas. They experienced chemical burns and respiratory problems. As a result of the exposure the boat was required to be decontaminated and therefore unable to fish for several days. Furthermore, its catch was seized.

Mustard Gas, also known as Sulfur Mustard, is a chemical weapon developed and used during World War I. It was delivered in liquid or gas form and caused blistering of the skin, eye irritation possibly leading to blindness, and severe lung injury if inhaled.

The incidental discovery of munitions at sea during fishing, scuba diving and other evolutions has been an occasional problem for decades. Any such discoveries, handling of and or landing of any unknown weaponry or components onboard vessels can have catastrophic results. To additionally complicate the situation, these items can be well encrusted with marine growth and barely recognizable. Thus, the discovery of any unknown / unidentifiable objects must be treated with extreme care and caution.

The U.S. Army Technical Center for Explosive Safety provides a Maritime Industry 3Rs Explosives Safety Guide at the following URL. http://aec.army.mil/usaec/cleanup/images/mmrp-maritime.pdf It emphasizes Recognizing, Retreating and Reporting when munitions (unexploded ordnance) are found and provides useful imagery to assist in identifying these objects.

In light of this recent event, the Coast Guard **strongly recommends** that

- any persons involved in commercial fishing industries and any similar activities, review and update navigational charts to ensure “Explosives Dumping Areas” are well marked and identified and that all vessel operators know to give these areas wide berth when towing gear,
- review 3R material from the URL above, and
- report any discovery immediately to the **National Response Center** at **1-800-424-8802 for proper response.** (Alternatively, the CG may be notified via channel 16.)

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Please visit http://fishsafe.info for additional fishing safety information. Developed by the Office of Investigations and Analysis and Commercial Fishing Vessel Division, U. S. Coast Guard Headquarters, Washington, D.C.. Questions may be addressed to the sender.

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Office of Investigations and Analysis: http://marineinvestigations.us
To subscribe: kenneth.w.olsen@uscg.mil

UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

May 27, 2010
Washington, DC

Alert 05-10

AIS TEXT MESSAGING CONCERNS: USAGE DURING NAVIGATION AND EMERGENCIES AND ENSURING ACCURATE AIS DATA

Automatic Identification System (AIS) is an internationally adopted radio-navigation protocol to exchange pertinent navigation-related information amongst its users, either afloat, ashore or airborne. AIS facilitates vessel traffic management while simultaneously reducing the need for voice radiotelephone transmissions. AIS provide vessel information, including the vessel's identity, type, position, course, speed, navigational status and other safety-related information. It receives automatically such information from similarly fitted ships; monitors and tracks ships; and exchanges data with shore-based facilities.

Usage During Navigation - AIS enhances user's situational awareness, and can mitigate risk of collision by providing vessels with more reliable information upon which to base their passing arrangements. This can be accomplished via an AIS safety related text message of up to 156 characters long. However, the Coast Guard **strongly reminds operators** that use of AIS text messaging does not relieve the vessel of other requirements, such as the Vessel Bridge-to-Bridge Radiotelephone regulations or of the requirements to sound whistle signals and display lights or shapes in accordance with the International or Inland Navigation Rules.

Usage During Emergencies - With respect to using AIS safety related text messages in emergency situations, **users must be aware** that they **may not be received, recognized or acted upon** as Global Maritime Distress Safety Systems (GMDSS) messages would be by the Coast Guard, other competent authorities or maritime first responders. Thus AIS must not be relied upon as the primary means for broadcasting distress or urgent communications, nor used in lieu of GMDSS such as Digital Selective Calling radios which are designed to process distress messaging. Nonetheless, AIS remains an effective means to augment GMDSS and provides the added benefit of being 'seen' (on radar or chart displays), in addition to being 'heard' (via text messaging) by other AIS users within VHF radio range.

Operators Must Ensure Accurate Data -The Coast Guard has noted a high percentage of inaccurate and improper AIS messaging data. AIS requires operators to routinely update their data as it relates to navigation status, draft, origination and destination ports, and eta. Other pertinent static data is to be maintained accurately. Dynamic Data, such as that from positioning sources like GPS via external sensors must always be operational, accurate and continuously updated. See http://www.navcen.uscg.gov/enav/ais/USA_AIS_Data_Entry_Guidance_v5.pdf for additional details. AIS is **only as good as the information provided and exchanged**, therefore, users must ensure their unit is always in effective operating condition and broadcasting accurate information.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Please visit www.navcen.uscg.gov/enav/ais/AISFAQ.htm for further information on AIS or on how to program and properly use AIS messaging. Developed by the Office of Waterways Management, U. S. Coast Guard Headquarters, Washington, D.C., cgnav@uscg.mil.

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

April 28, 2010 Alert 04-10
Washington, DC

Watertight Doors – Close Them and Dog Them!

Not Actual Vessel

Recently a push boat operating "unfaced" (no barges attached) in the Houston Ship Channel flooded and sank while in the wake of tractor tug resulting in the death of the push boat crew and the narrow escape of two others. Although the investigation is not yet compete, it appears that the following occurred: The vessel's watertight doors leading to its engine room had each been pinned open. The push boat had very little freeboard and was fully loaded with fuel and water. As it took the wake of the tractor tug, the vessel listed to one side and down flooded the engine room through a watertight door. As it rolled to the other side, it took on more water, eventually sinking stern first and coming to rest on the bottom of the channel in an upright position. A person working in the engine room was trapped by the incoming water and drowned. Two others narrowly escaped death after being trapped in a berthing area for over 10 minutes, breathing only a pocket of air before taking dramatic efforts to reach the surface via a broken window.

Watertight doors have been the subject of three other safety alerts involving fishing vessels and offshore supply vessels. Despite these awareness efforts, despite certain vessels having stability requirements requiring closure of such doors well documented in stability letters, despite owners and operators knowing what constitutes "Good Marine Practice," and many other applicable regulations the Coast Guard continues to investigate casualties where the failure to keep closed or properly maintain watertight doors is determined to be a causal factor.

Watertight doors function to establish the watertight integrity of the vessel and must always be treated as such. Although an open or poorly maintained door may seem like an insignificant issue, when the right causal factors align, the door can become a death trap and result in terrible circumstances to a vessel and its crew. The Coast Guard **strongly recommends** to all operators of any vessel, underway, having watertight doors to:

CLOSE THEM and DOG THEM!

The Coast Guard also recommends that the attached related safety alerts be reviewed for additional information. This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Investigations and Analysis, United States Coast Guard Headquarters, Washington, DC. Questions can be addressed to Mr. Ken Olsen at 202.372.1037 or via the email address below.

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Office of Investigations and Analysis: http://marineinvestigations.us
To subscribe: kenneth.w.olsen@uscg.mil

UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

November 19, 2008 Alert 12-08
Washington, DC

WATERTIGHT DOORS

This Safety Alert addresses the importance of properly maintaining and closing watertight doors. Unfortunately, marine casualties, often resulting in loss of life and property, continue to be linked to improperly maintained or closed watertight doors!

One of the contributory factors in a recent major marine casualty on an uninspected commercial fishing vessel was the failure to properly maintain and keep closed watertight doors on the vessel's weather deck. In this incident one watertight door was not properly dogged down, permitting it to open and let water flood a space below the main deck. Another watertight door on the vessel's main deck was not maintained and as a result, it leaked, permitting water to enter an adjacent space.

Over 42% of all marine casualties on fishing vessels involve flooding that in most cases could have been prevented or minimized by the proper use of watertight doors. Two safety alerts have been issued in the past two years emphasizing the importance of maintaining watertight doors and keeping them closed at all times while underway except when actually being used.

As a result of this incident and due to other related casualties, the U. S. Coast Guard **strongly recommends** vessel owners and operators to:

Regularly inspect the condition of all watertight doors on their vessels including the gasket and knife-edge to ensure that the doors close properly when dogged down securely. Watertight door gaskets should not be painted; any paint discovered on the gasket should be removed. Excessive gaps between the gasket ends should be avoided and repaired upon discovery;

Periodically perform either a chalk or light test on all watertight doors to ensure that the knife edge makes contact with the entire door gasket;

Ensure that all dogs or closing assemblies move freely and close securely. Routinely lubricate all watertight door fittings and hinges to ensure fluid operation; and

Ensure that vessel masters provide regular training on watertight door operation and maintenance to their crews. Watertight doors should be closed at all times while a vessel is underway except when transiting from space to space.

Please access http://marineinvestigations.us Safety Alerts > General Operations > "Securing Watertight Doors" and "Maintaining Vessel Watertight Integrity" for additional related information.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Investigations and Analysis, United States Coast Guard Headquarters, Washington, DC.

Office of Investigations and Analysis: http://marineinvestigations.us
To subscribe: kenneth.w.olsen@uscg.mil

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

May 9, 2008 Alert 1-08
Washington, DC

Maintaining Vessel Watertight Integrity

This Safety Alert addresses two issues: watertight integrity and high level bilge alarms.

Recently a marine casualty involving a fishing vessel in the Bering Sea resulted in multiple fatalities and complete loss of the vessel. A Marine Board of Investigation is currently examining the various circumstances surrounding the casualty. Although the investigation is not complete, testimony indicates the flooding of the vessel may have been exacerbated due to open or leaking watertight doors and other compartmental deficiencies which impacted the vessel's overall watertight integrity.

As a result of this and other similar casualties, the U. S. Coast Guard **strongly recommends vessel owners and operators:**

WATERTIGHT INTEGRITY

Ensure all watertight decks and bulkheads are inspected periodically to verify that there are no unprotected openings or improper penetrations that will allow progressive flooding and that closure devices (e.g. watertight doors, duct closures, etc.) are in place and in working order.

Ensure all crewmembers are familiar with the locations of the watertight doors (WTDs) and weather tight closures throughout their vessels. Knowing the locations of such WTDs and weather tight closures should be part of the crewmember vessel familiarization process.

Ensure WTDs and hatches are closed while at sea and as otherwise specified in the stability guidance provided to the master or individual in charge. The importance of keeping WTDs and hatches closed should be emphasized on a regular basis (e.g. at safety meetings). WTDs and hatches should be opened only briefly to allow passage and labeled appropriately to remind crewmembers to close them. If they must remain open to permit work, WTDs and hatches should be attended at all times so that they can immediately be closed. Any WTDs permitted to be open while the vessel is underway should be secured during drills to ensure they work properly.

Implement a WTD inspection program to ensure each WTD is regularly inspected and properly maintained. As part of the inspection of each WTD, the following should be examined: straightness of the knife edge; the door assembly for twisting or warp-age; evidence of loose, missing seized or damaged components; permanent set in gasket material, cracks in the gasket; gaps at gasket joints; paint, rust, or other foreign material on gaskets, knife-edges and working parts; binding and difficult operations; and loose or excessively tight dogs. Rotating spindles of the dog, handles and hinges, and other points of friction should be lubricated to prevent seizing and allow proper closure. If fitted, the spindle packing should also be examined.

Ensure watertight hatches, dogged manholes, bolted manhole covers, and access plates are given similar examinations, focusing on the sealing surfaces and the method by which the hatch is secured. Gasket materials should be replaced whenever they are found insufficient. Regardless of the type of hatch or access, every component that secures the device, such as dogs, wing nuts, or bolts should be inspected, lubricated and free, and repaired or replaced as necessary to ensure they operate properly. As with watertight doors, hatches and accesses should be labeled to indicate they remain closed while underway. Most importantly, all securing devices must be used when the hatch or access is closed. Improper closure of a hatch will not prevent flooding.

Ensure compartments and external hull structures fitted with ventilation ducts that have hinged covers with gaskets, hinges, sealing surfaces and securing mechanisms are regularly inspected and properly maintained (see above for guidance).

Ensure electrical cables and conduits, piping runs, remote valve actuators, and other components that penetrate watertight bulkheads, decks, and compartments are inspected frequently and properly maintained. Each may have a unique sealing method involving glands with packing assemblies, penetration seals, or other methods. Frequent inspection and proper maintenance of these various fittings and assemblies will assist in minimizing the possibility of progressive flooding.

BILGE AND HIGH WATER ALARMS

Ensure water accumulation is minimized and all spaces are kept dry unless permitted by the stability instructions provided to the master or individual in charge.

Ensure bilge high level alarms are arranged to provide the earliest warnings of abnormal accumulation. The high level bilge alarms should be set as low as possible to the deck or bilge well and positioned along the centermost area of the compartment or in a location at which the fluids will gravitate to first. In areas where bilge water routinely accumulates, the bilge high level alarms should be placed just above the point where under normal working conditions the accumulation would be pumped to a holding tank, overboard, or through an oily water separation system if required. Alarms may be fitted with short time delays to prevent nuisance alarms caused by the rolling and pitching of the vessel.

Ensure all crewmembers understand the importance of minimizing water in the bilges.

Provide the funding, labor, spare parts, and vessel availability necessary to ensure leakages stemming from machinery, equipment and other components are kept to a minimum at all times in accordance with good marine practice.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed and distributed by the Office of Investigations and Analysis, United States Coast Guard Headquarters, Washington, DC.

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United States Coast Guard
Marine Safety Alert
Assistant Commandant for Prevention
Department of Homeland Security

September 19, 2007 Alert 3-07
Washington, DC

SECURING OF WATERTIGHT DOORS WHILE UNDERWAY

This safety alert reiterates the need for vessel operators to ensure that watertight doors are always closed while underway, except when being used for access. This alert is the direct result of a collision between a 534' cargo ship and a 166' offshore supply vessel. The incident occurred on the Mississippi River, in a restricted visibility situation. As a result of the collision, the offshore supply vessel capsized and sank – the crew of five was lost.

During the ensuing investigation of this incident, evidence was uncovered that indicated the offshore supply vessel was operating with its watertight doors in the open position. This is a violation of 46 CFR 174.210(e), which states that the master must ensure that a watertight door is always closed, except when being used for access. Watertight doors are a critical part of a vessel's subdivision, and consequently a critical part of damage stability considerations, so the importance of keeping these closed is very obvious. This becomes even more critical on smaller ships, which may only have one or two watertight doors to prevent flooding the entire length of the ship.

Please, keep these doors closed!

The Office of Design and Engineering Standards, Naval Architecture Division (CG-3PSE-2) developed this alert. Questions pertaining to this safety alert may be addressed to LCDR Tracy Phillips at (202) 372-1373 or Tracy.Phillips@uscg.mil.

This material is provided for informational purposes only and does not relieve any existing domestic or international safety, operational or material requirement.

UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

April 27, 2010
Washington, DC

Alert 03-10

Portable Generator use on Recreational Houseboats

Three persons recently died aboard a houseboat due to the use of a portable generator. They were overcome by carbon monoxide from a generator that was being operated in the engine compartment adjacent to the main cabin.

The nonoperational 1973 Gibson houseboat was anchored at the time of the casualty; a portable generator was being used to provide power for lights, as well as, charging batteries for the boat's bilge pumps. The generator was partially lowered into the houseboat's engine compartment alongside the remnants of the houseboat's inoperable main propulsion engine. Investigators concluded that the 3500 watt generator's exhaust permeated the houseboat's firewall (immediately aft of cabin) and bilge filling the cabin with carbon monoxide. The duration of exposure is unknown; however, autopsy reports of the deceased indicated that their carboxyhemoglobin (COhb) saturation levels were in excess of 60%.

The Coast Guard **strongly encourages** boaters to ensure proper ventilation to prevent the accumulation of combustion gases from any equipment. Generators, main engines, powered pumps, kerosene space heaters, barbeque grills, etc.., will create hazardous atmospheres if improperly maintained and if there is inadequate ventilation or if gasses can accumulate. Placement of such equipment on an open deck may not be adequate if the exhaust enters the vessel's cabin through other intakes. Accumulation of carbon monoxide can occur even outside of a boat in those areas between catamaran hulls or between boats tied together. Prolonged exposure regardless of location can be deadly.

To prevent accidental deaths as described in this casualty, the Coast Guard **urges** the use of carbon monoxide detectors for internal enclosed areas of boats, particularly sleeping quarters.

Access http://www.uscgboating.org/safety/carbon_monoxide.aspx for additional carbon monoxide prevention and other useful boating safety information.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Boating Safety Division's Product Assurance Branch and distributed by the Office of Investigations and Analysis, United States Coast Guard Headquarters, Washington, DC. Questions can be addressed to Mr. Michael Jendrossek at (202) 372-1052 or michael.a.jendrossek@uscg.mil

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

April 13, 2010 Alert 02-10
Washington, DC

DANGERS ASSOCIATED WITH AUTOMATIC CHANNEL SWITCHING ON DIGITAL SELECTIVE CALLING (DSC) EQUIPPED VHF MARINE RADIOS

It has come to the Coast Guard's attention that an *automatic channel switching* feature found on certain models of Digital Selective Calling (DSC) equipped VHF marine radios may create an unintended hazard by automatically switching from a working channel that might be in use at the time to Channel 16 when the VHF marine radio receives a DSC distress alert, distress alert acknowledgment or other DSC call where a VHF channel number has been designated. This could happen without a vessel/radio operator's immediate knowledge and could initiate an unsafe condition by which the vessel/radio operators would believe they were communicating on a working channel such as Channel 13 when, in fact, they were actually on Channel 16. Imagine a towboat operator on the lower Mississippi River making passing agreements on VHF channel 67 and then suddenly, without warning, not being able to quickly reestablish communications with those vessels because his/her radio automatically switched to Channel 16 instead.

Since this unsafe condition can happen at any time, the Coast Guard **strongly recommends** disabling the *automatic channel switching* feature when maintaining a listening watch or communicating on the designated bridge-to-bridge radiotelephone, or while monitoring the vessel traffic services (VTS) channel. Radios that lack the disabling feature should not be used for bridge-to-bridge or VTS communications.

The International Telecommunications Union Sector for Radiocommunications, Recommendation M.493-11 published in 2004 and later versions require DSC-equipped radios to provide for *disabling of this channel auto-switch feature.* In the United States, the Federal Communications Commission (FCC) requires all DSC-equipped radios certified after March 25, 2009 to meet this requirement. Manufacturers that do not provide a disable function are encouraged to do so and to inform their customers if means for correction exist. Updated information including a listing of manufacturers of radios believed to be affected by this Safety Alert will be posted as available at http://www.navcen.uscg.gov/marcomms/gmdss/dsc.htm .

The Coast Guard **strongly reminds** radio operators and other users to always ensure they are on the proper operating channel when communicating or maintaining watch, particularly with DSC-equipped radios capable of channel auto-switching.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Spectrum Management and Telecommunications Policy Division (CG-652), United States Coast Guard Headquarters, Washington, DC. Questions should be directed to Mr. Russell Levin at (202) 475 3555 or Russell.S.Levin@uscg.mil.

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

January 7, 2010
Washington, DC

Alert 01 -10

TERMINATION OF THE LORAN-C SIGNAL

Consistent with the Administration's pledge to eliminate unnecessary Federal programs and systems, the USCG broadcast of the Loran-C signal is going to be terminated.

Federal broadcast of the Loran-C signal will cease at 2000Z on 08 February 2010 with some exceptions, including the following five sites that are bound by bi-lateral agreements with either Canada (Caribou, ME; George, WA; Nantucket, MA; Shoal Cove, AK) or the Russian Federation (Attu, AK).

Mariners or other users of Loran-C are encouraged to shift to GPS navigation and plotting systems as soon as possible and not later than the termination date.

Questions regarding the information presented in this alert may be addressed to Bill Cairns of the U.S. Coast Guard Headquarters e-Navigation Division at 202.372.1557 or William.R.Cairns@uscg.mil.

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

December 18, 2009 Alert 09-09
Washington, DC

NAVIGATION LIGHTS - "MAINTAINING DISTINCTIVE CHARACTER"

The Coast Guard recognizes that many vessel owners choose to place of decorative lights onboard their vessels during the Holiday season. The Coast Guard **strongly reminds** vessel owners not to illuminate such lights during routine navigation unless operating in a Holiday boat parade or when the vessel is secured dockside. This issue was highlighted during a recent casualty whereby the owner of a passenger vessel had installed decorative Holiday type LED (Light Emitting Diode) lighting around the periphery of the vessel. The LEDs were contained in a clear flexible hose and securely attached. Near the bow of the vessel the lighting was adjacent and slightly above the port and starboard navigation lights. At night this installation, can impair the "distinctive character" of the navigation lights as set out in Rule 20 of the Navigation Rules. (Photograph below shows daytime view.)

Additionally, Rule 22 of Navigation Rules states that vessel sidelights have a two mile range for vessels 12 meters or more in length but less than 50 meters in length. In this particular casualty a side light navigation fixture was found installed on the passenger vessel that was stamped 1 nautical mile vice two miles. Vessel owners and operators and marine inspection personnel should ensure that the proper navigation lighting fixtures are installed, that all components operate correctly and that regulatory requirements with respect to Navigation Lighting are met.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. This information does not assign culpability of any kind, to any involved party with respect to the aforementioned casualty. Developed by the Office of Investigations and Analysis, United States Coast Guard Headquarters, Washington, DC. Questions can be addressed to Mr. Ken Olsen at:

Kenneth.W.Olsen@uscg.mil.
Office of Investigations and Analysis:
http://marineinvestigations.us
To subscribe: kenneth.w.olsen@uscg.mil

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

November 30, 2009 Alert 08-09
Washington, DC

UNAPPROVED EPIRB BATTERY REPLACEMENTS

Fishing vessel safety staff in the Coast Guard's Seventh District has received at least three reports in the past few months regarding unapproved replacements of 406 EPIRB batteries by servicing companies having no association with the EPIRB manufacturer. These unauthorized battery installations would likely result in a failure of this critical item of lifesaving equipment, and as such are not in compliance with the operational readiness requirements of 46 CFR.

The following is a typical excerpt from an EPIRB manufacturer report:

> "The unit was opened and a foreign battery was found inside. The battery was built up using (manufacturer) fuses and wiring salvaged from the original (manufacturer) battery. They then covered their battery with the original (manufacturer) yellow heat shrink, (manufacturer) labels and taped it together. This was then covered with a black heat shrink wrap. The connections were soldered and not spot welded, as is required by the design and is performed in (manufacturer) production. The battery measured 8.7 volts. Our batteries read 9+ volts when they are new. This battery was installed one week prior to it being brought into (manufacturer).
>
> There was also evidence of water intrusion due to the crack in the top cap, which (servicing company) did not recognize as they are not trained in these matters.
>
> The EPIRB was condemned by (manufacturer) and the customer was notified when he came to pick the unit up."

Every approved (i.e., accepted by the FCC) EPIRB is tested during its approval process using a battery, or batteries, specified by the manufacturer. Approved EPIRBs come with a user's manual which describes battery maintenance and replacement procedures. In order for the EPIRB to remain within the conditions of its approval, the manufacturer's instructions in the user's manual must be adhered to. To ensure that replacement batteries are of the same type with which the EPIRB was approved, and are correctly installed, manufacturers typically specify that battery replacements only be done by the manufacturer or a manufacturer-approved shop.

Any modification or changes to an EPIRP must be made in accordance with the manufacturer. The use of alternative replacement parts or batteries is prohibited and may prevent the device from meeting lifesaving requirements. The Coast Guard **strongly reminds** EPIRB owners and servicing facilities to be aware of the compliance implications and potential for equipment failure stemming from any EPIRB modification or unauthorized battery replacement.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Questions regarding the information presented in this alert may be addressed to LCDR Vince Gamma of the U.S. Coast Guard Headquarters Lifesaving & Fire Safety Standards Division at 202.372.1396 or Vincent.A.Gamma@uscg.mil.

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

November 16, 2009 Alert 07-09

Washington, DC

SAILBOAT RIGGING DANGERS

Recently in the Florida Keys, the standing rigging of a 60' inspected passenger carrying sailing catamaran failed, causing its rotating *wing spar* mast to collapse. Evidence suggests that the port shroud parted where it exits a swageless mechanical end fitting located on the upper mast at a common shrouds/stay connection. Although there were a number of passengers onboard at the time there were no resultant injuries. A six year review of Coast Guard casualty data shows 28 similar type casualties involving inspected sailing vessels. Of those 28, nine involved the failure of mast, spars and rigging components leading to dismastings; six of those involved sailing catamarans. Two separate catamaran dismasting resulted in two fatalities.

Common among the dismasting casualties was the failure of the mast's standing rigging. While this investigation is ongoing, initial forensic metallurgical analysis of the failed cable strands showed visual corrosion and evidence of fatigue failure. The shroud cable and swageless end fitting had been installed seven years prior.

The Coast Guard **strongly reminds** all commercial vessel owners/operators, especially those of passenger carrying sailing catamaran's of similar build, of their responsibility to maintain their vessels, associated equipment, systems and components in a satisfactory condition suitable for their employed service at all times. Owner and operators should not wait until regularly scheduled Coast Guard inspections to identify problems but should be ever vigilant and implement routine inspection, maintenance, and repair procedures in accordance with good marine practice and in alignment with applicable requirements. Owners and operators should consult the vessel manufacturer or other naval architecture, marine engineering services or qualified rigger regarding any concerns they might have regarding the regular flexing and working of their vessel's standing rigging

Inspection requirements for small passenger vessels are found in 46 CFR 175-185. Additionally, Coast Guard Sector Honolulu, by consensus with their local sail vessel industry, developed Inspection Note #13 that outlines an enhanced inspection regime for sailboat rigging, masts and associated components for their inspected small passenger sailing vessel fleet consisting almost entirely of catamarans. This information is useful to both marine inspection personnel and vessel owners/operators and is available by searching the web using the key words: "Sector Honolulu Inspection Note #13". Manufacturer published guidelines on mast and rigging system maintenance can be found in "Rigging Service Guidelines" http://www.navtec.net/docs/RiggingService.pdf published by Navtec Rigging Solutions. Practical standing rigging inspection information from a marine surveyor's perspective is available at http://www.dixielandmarine.com/yachts/DLrigprob.html.

This safety alert is provided for informational purposes only and operational or material requirement. This does not represent an official endorsement of Navtech Rigging Solutions, Dixieland Marine Inc, its services, products, or employees. Developed by the Office of Investigations and Analysis, United States Coast Guard Headquarters, Washington, DC. Questions can be addressed to Mr. Ken Olsen at the email address below.

Office of Investigations and Analysis: http://marineinvestigations.us
To subscribe: kenneth.w.olsen@uscg.mil

UNITED STATES COAST GUARD
U.S. Department of Homeland Security
MARINE INVESTIGATIONS
LESSONS LEARNED
Assistant Commandant for Marine Safety, Security and Stewardship

October 16, 2009
Washington, DC

Lessons Learned 01-09

SMALL FIRE / IMPORTANT LESSONS

This document presents recent lessons learned resulting from a casualty investigation and may be useful to vessel owners and operators in addition to marine inspection personnel.

Recently in the North East an 83 foot long passenger ferry which has the capacity to carry 306 persons experienced a small engine room fire. The vessel was just off its dock at the time the fire started and onboard were 110 persons. Because of the nearness to the dock, the vessel's Captain chose to disembark the passengers prior to manually activating the engine room CO2 system and closing the main fuel stop valve. The CO2 system extinguished the fire and when the local fire department arrived later they found the port main engine's exhaust insulation smoldering. Using a fire hose to cool the area they completely extinguished the fire. Although the casualty is still being investigated, it appears that the fire was caused by a leaking pipe fitting attached to the fuel oil filter of the center engine. Fuel sprayed from the rear of the center engine to the port main engine exhaust piping and ignited.

Polypropylene or PVC Components

The engine room utilized vents to provide air for the engines and cooling. There were no forced supply fans or exhaust systems. Slots in the ceiling at the outboard sides of the engine room, forward and aft, provided the openings to four ducts which contained dampers. The damper closed against the slotted opening located in the floor of the duct (ceiling of machinery space) when the CO2 system was activated. In normal circumstances, airflow from the outside could flow past a moisture eliminating filter, into the duct area, past the open damper, through the slot and into the engine room. Depending on weather conditions, air could enter one side of the vessel and exit the other. When the extinguishing system was activated, all the dampers closed properly. However, after the fire it was noted that several external moisture eliminator filters were extremely damaged. The photo above shows an undamaged moisture eliminating filter. The actual size of this filter is about five feet by fifteen inches.

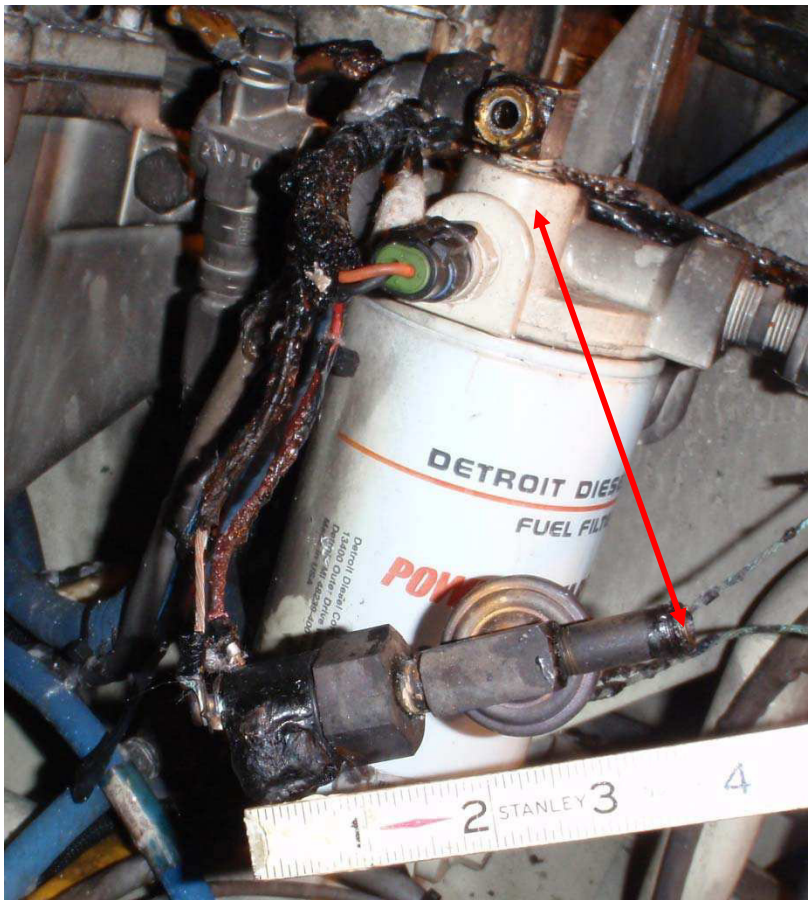
The following photo shows the melted moisture eliminating filter from the opposite side of the vessel. High temperature gases flowed through it during the fire causing it to overheat and deform prior to its respective damper closing. It fell on top of the damper after the damper had closed. The small fire in the engine room was about nineteen feet away on the other side of the vessel and aft. Investigators

noted that *if* the filter had melted and fallen on or into the slot of the duct before the damper closed, it is likely to have interfered with the damper operation and possibly have reduced the effectiveness of the CO_2 system.

46 CFR 116.610 (b) applicable to this vessel, states that "a ventilation duct, and materials incidental to installation must be made of noncombustible material." 46 CFR 116.610(c) states that "combustibles and other foreign materials are not allowed within ventilation ducts. However metal piping and electrical wiring installed in a metal protective enclosure may be installed within ventilation ducts, provided that the piping or wiring does not interfere with the operation of fire dampers." Owners and operators of any type vessel, as well as those persons involved with the inspection of vessels should be aware of the potential risks associated with this and similar installations and are reminded that inspections of fire dampers should include observation of all related structure near dampers to ensure that the dampers will operate under fire conditions. These structures and any incidental materials should not be made of combustible material. On vessels with manual extinguishing systems, or those with manual dampers whereby when securing the ventilation time is of the essence, consideration needs to be given regarding the materials used should it be subjected to excessive heat carried by high temperature gases.

Failed Pipe Fittings

As stated previously, the investigation into this casualty is not yet complete. The components of the pipe fitting which failed are currently being examined by NTSB metallurgists. It is suspected however that the failed fittings may have been subjected to excessive vibration which could have caused the fracture. The original configuration was modified by adding a fitting that attached two additional sensors (for a total of four) to the fuel filter assembly and was subject to pressures up to 65 psig or greater. The assembly weighed 6.3 ounces and extended about 4 inches out of a reducing bushing that was threaded into the inlet fitting of the filter. Because of the location of the fire and oil soaked insulation it is



suspected that the fitting leaked first and did not immediately shear as shown in the photo at the right.

Owners and operators of any type vessel, as well as those persons involved with the inspection of vessels should be aware of the potential risks associated by adding components to an engine assembly and must take into account the effect of vibration on those components. If add–on components are discovered effort should be made to verify the adequacy and safety of the installation by consulting the engine manufacturers and designers.

In this instance an improved installation may have involved mounting the sensors directly to a stable surface and attaching the sensors to the filter inlet using a flexible hose.

Hot Spots

In a small engine room containing several engines and having a low overhead there are a number of locations that present enough heat to cause a fuel to flash and ignite other components. Turbocharger and exhaust piping insulation while serving to reduce heating of external areas also helps reduce the immediate availability of ignition hot spots. Care should be taken to ensure insulation wraps and blankets are kept tight and fastened in a manner to prevent dripping or spraying fluids from traveling to an exposed hot spot. Insulation seams should be made tight and where possible aligned in a manner to prevent pooling of fluid and to repel dripping. Likewise good marine practice may also dictate and ensure that braces which are welded directly to the exhaust pipe which serve as hangers or supports also be insulated. Heat conducting from the exhaust pipe to the brace could be substantial allowing the exposed bracket to become nearly as hot as the exhaust pipe. The brace in the photo above was only partially covered with the insulation that was wrapped around the exhaust pipe. As with the other concerns in this document, owners and operators of any type vessel, as well as those persons involved with the inspection of vessels should be aware of the potential risks associated with improper or inadequate installation of insulation.

Additional fire protection information is provided in 1) NVIC 9-97 “Guide To Structural Fire Protection” available http://www.uscg.mil/hq/cg5/nvic/pdf/1997/n9-97.pdf and 2) IMO Maritime Safety Committee MSC.1/Circ.1321 11 June 2009, “GUIDELINES FOR MEASURES TO PREVENT FIRES IN ENGINE-ROOMS AND CARGO PUMP-ROOMS.” Copies available upon request.

This document is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Investigations and Analysis, United States Coast Guard Headquarters, Washington, DC. Questions can be addressed to Mr. Ken Olsen at kenneth.w.olsen@uscg.mil.

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

September 17, 2009 Alert 07-09
Washington, DC

DRUG TESTING REQUIREMENTS FOR CHARTER VESSELS
46 CFR Parts 4 and 16, 49 CFR Part 40, 33 CFR 95

The Coast Guard is **strongly reminding** the Charter Vessel Industry of their duties and obligations to meet federal drug testing regulations. Requirements for marine employers to have drug testing programs have been in effect since November 21, 1988. These requirements are applicable to all US flagged vessels in commercial service, regardless of vessel size or capacities, including what are commonly known as Six Pack Charter Vessels. The rule requires chemical testing of all crewmembers working in safety-sensitive positions whether or not those crewmembers possess merchant mariner credentials. The consequences for failing to comply with these requirements can be substantial and may involve the loss of a license or document, loss of a vessel or civil penalties at a rate of $5,500 per day per violation.

The rule applies to all commercial service vessels required to be operated by a US Coast Guard issued licensed individual, onboard any US flagged inspected and uninspected vessel on any route, commercial fishing vessels 200 GT or greater, and towing vessels 26 feet in length or longer. All crewmembers responsible for the safe operation and navigation of the vessel or those responsible for the safe handling of passengers in the event of an emergency must be tested.

Pre-employment drug testing is required prior to a person being placed in a safety sensitive position. Crewmembers are also subject to random drug testing at a minimum rate of 50% annually. Drug testing must also take place following a Serious Marine Incident. In these cases, anyone involved with the incident must be tested for evidence of drug and alcohol use. Additionally, testing may take place when a supervisor has reasonable cause of drug and alcohol use. Drug testing may also occur periodically when a USCG credentialed individual submits an original merchant mariner credential application, a reissuance, upgrade or endorsement. Please see the following attachment for additional basic information.

Detailed information about the Coast Guard's Drug and Alcohol Program and responsibilities of marine employers is available online and may be accessed at http://marineinvestigations.us > Drug and Alcohol Program. Questions regarding testing requirements may be directed to your Coast Guard District Drug and Alcohol Program Inspector or the Headquarters Drug and Alcohol Program Manager, Mr. Robert Schoening at 202.372.1033 or Robert.C.Schoneing@uscg.mil .

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Investigations and Analysis, United States Coast Guard Headquarters, Washington, DC.

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Marine Employers Drug Test Program
Basic Regulatory Requirements

46 CFR Parts 4 & Part 16, 49 CFR Part 40, 33 CFR 95

Background: On November 21, 1988, a new regulation requiring chemical testing for all U.S. flagged vessels in commercial service was published in the Federal Register. This rule required chemical testing on all crewmembers working in a safety- sensitive positions. A crewmember is a documented or undocumented individual.

Applicability: Applies to all commercial service vessels required to be operated by a US Coast Guard issued licensed individual: All United States flagged inspected and uninspected vessels in commercial service on any route; Commercial fishing vessels 200 GT or greater; Towing vessels 26 ft length or longer.

Who must be tested? All crewmembers responsible for the safe operation and navigation of the vessel and those responsible for the safe handling of passengers in the event of an emergency.

When is Drug testing required? *Pre-employment:* Must take and pass a drug test prior to being placed in a safety-sensitive position. *Random:* All crewmembers are subject to random unannounced drug testing at a minimum rate of 50%. *Serious Marine Incident:* Marine employer shall take all practicable steps to have each individual engaged or employed on board the vessel who is directly involved in the incident chemically tested for evidence of drug and alcohol use. *Reasonable Cause:* To be conducted when there is a reasonable and articulable belief that individual has used a dangerous drug based on direct observation of specific, contemporaneous physical, behavioral, or performance indicators of probable use. Where practicable, this belief should be based on the observation of the individual by two persons in supervisory positions. *Periodic:* Testing conducted when an individual is required to take a drug test for a USCG credential transaction (i.e., original application, reissuance, upgrade or endorsement.

How to do testing? All tests have to be conducted in accordance 49 CFR 40 (Dept. of Transportation (DOT) procedures) Employers may manage your own program, or use the services of a drug test consortium or third party administrator.

Drugs that are tested for: Marijuana; Cocaine, Amphetamines, Opiates, and PCP.

Where does the testing take place? Testing takes place at laboratories accredited by Dept of Health and Human Services.

What type of specimen is provided for testing? Urine is the only accepted test specimen for drugs.

Who collects the specimen? Only Dept. of Transportation qualified collectors can collect the specimen and ship it to the testing laboratory.

What happens at the laboratory? The specimen will be analyzed using a two step testing process and will also do testing to make sure it is a valid urine specimen. If the specimen is not an acceptable specimen, it will be reported to the Medical Review Officer (MRO) as substituted, adulterated or invalid test result. The first test is an initial screen test and if negative, testing stops with the test result

reported to the MRO as negative. If the screen test is positive for one or more drugs, the specimen is tested using a confirmation test called GC/MS. This final test result is reported to the MRO.

Who is the MRO? A licensed physician (MD or DO) that is qualified to review drug test results from the laboratory. The MRO will contact and talk to the specimen donor for all non-negative drug test results and will report to the employer all negative and positive drug test results.

What does the marine employer do with the test results? If negative test result is obtained that person can be hired and no other action is required. If non-negative test result, the employer is required to immediately remove from safety-sensitive position. If a credentialed mariner, the employer must report the non-negative test result to Coast Guard.

Can I return this person to work? Only after the return-to-work requirements have been complied with.

Other requirements: Employee Assistance Program (EAP). This consists of an EAP Education Program and a Training Program. Several requirements contained here for education of the dangers of drug use; Distribution of informational materials; Display of a community hot-line assistance telephone number; Company Policy; Employee Drug Awareness; and Supervisor Training.

Records and Reporting: Program records are required to be maintained. The annual report includes the number of tests conducted annually by an employer. A Consortium or Third Party Administrator may perform these functions on behalf of a marine employer.

Potential Consequences: Potential consequences for failure to comply are: Letter of Warning; Do Not Sail Order; Civil Penalty $5,500 per day per violation; Loss of license or document; Loss of vessel.

Additional Questions:

Contact your District Drug and Alcohol Program Inspector or the Program Manager at Coast Guard Headquarters:

Robert C. Schoening
Phone:202-372-1033
Email: Robert.C.Schoening@uscg.mil
Web: Homeport.uscg.mil>Investigations

UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

September 17, 2009
Washington, DC

Alert 06-09

PARASAILING INCIDENTS

Recently, two parasail vessel passengers lost their lives when the towline to which their parachute and harness were attached parted, causing the passengers and the parachute to descend. Subsequently, the two passengers were dragged along the water's surface by the parachute and ultimately were ensnared by the pilings and the structure of an ocean fishing pier. Although an investigation is underway and the causal factors surrounding this accident are being discovered, it appears that high winds and waves may have contributed to this casualty.

The Coast Guard **strongly reminds** the parasailing industry, its vessel owners, operators and shore side personnel to be vigilant in their observations of current and forecasted weather and sea conditions with particular attention paid to wind speed. Approaching weather patterns or squall lines present significant hazards to these operations due to sudden and dramatic shifts in wind direction, gusty winds, or even lightning. In a matter of a few short moments what is intended to be a pleasurable experience can become life threatening.

The Professional Association of Parasail Operators (PAPO) has developed and published parasail vessel Operating Standards and Guidelines for the safe parasail operations. These standards are available to PAPO members and the parasail industry. They can be obtained online at:

http://www.teampapo.org/documents/2006PAPOOSAG_000.pdf

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. This document does not represent an official endorsement of PAPO. Developed by the Office of Investigations and Analysis, United States Coast Guard Headquarters, Washington, DC. Questions can be addressed to Mr. Ken Olsen at the email address below or 202.372.1037.

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

July 21, 2009
Washington, DC

Alert 05-09

INADVERTENT DISCHARGES OF MARINE FIRE EXTINGUISHING SYSTEMS

This Safety Alert addresses a critical problem involving ANSUL - High Pressure Carbon Dioxide fire extinguishing systems (Coast Guard Approval number 162.038/7). The Coast Guard has become aware of several instances where this particular fire extinguishing system has discharged without human intentional or accidental involvement.

The system manufacturer, ANSUL has identified the suspect CO2 cylinder valves as those having a date code between 10-07 and 06-08. This date code is located on a flat surface immediately above the threaded section which enters the cylinder and opposite the discharge outlet. See the attached ANSUL bulletin for important details.

The Coast Guard **strongly recommends** that owners and operators who have ANSUL High Pressure Carbon Dioxide Systems onboard their vessels and others who may own, sell or service these systems carefully follow the instructions on the attached ANSUL Bulletin.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Investigations and Analysis and the Office of Design and Engineering Standards, United States Coast Guard Headquarters, Washington, DC.

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Office of Investigations and Analysis: http://marineinvestigations.us
To subscribe: kenneth.w.olsen@uscg.mil

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One Stanton Street
Marinette, WI 54143-2542
715 735-7411
www.ansul.com

Bulletin

Bulletin No. 5559

DATE: July 16, 2009

TO: Authorized ANSUL® Marine High Pressure Carbon Dioxide System Distributors

FROM: Quality Assurance

SUBJECT: Inadvertent Discharges of Marine High Pressure Carbon Dioxide Systems

SPECIAL SAFETY ALERT

If you own, sell or service ANSUL® Marine High Pressure CO_2 Systems, please read and follow the instructions in this bulletin.

⚠ WARNING

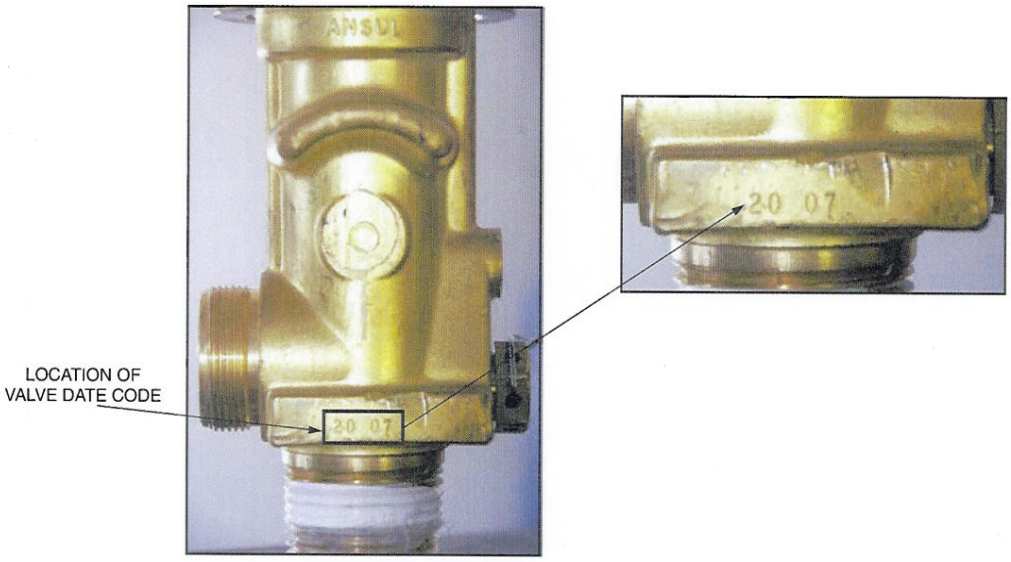
FAILURE TO READ AND FOLLOW THE INFORMATION IN THIS BULLETIN INCREASES THE RISK THAT A HIGH PRESSURE CO_2 SYSTEM MAY INADVERTENTLY DISCHARGE ON BOARD A SHIP.

We have received isolated reports of Marine High Pressure Carbon Dioxide Systems inadvertently discharging. In our review of the reported discharges, we have discovered that in some cases, an internal pressure vent on the cylinder valve may not be adequately venting pressure. Under certain conditions this may cause a cylinder in the system to actuate, which would then cause all cylinders on this specific system to actuate.

We have determined through internal testing that valves with the following date codes, if installed in marine applications, should be replaced:

Marine High Pressure CO_2 valves with a date code range of 10-07 to 06-08.

This date code range is conservative and may be further narrowed through additional testing. The date code is located on the flat opposite of the valve outlet. The date code represents the week and year the valve was manufactured.



Carbon dioxide cylinders which are installed, or could be installed on a ship with a valve date code between 10-07 and 06-08 **MUST** be identified. If you identify cylinders with valves in this date code range, please contact ANSUL Quality Assurance **IMMEDIATELY** for further information and authorization for replacement of these cylinders.

Your immediate attention is requested in order to avoid property damage or personal injury caused by an inadvertent discharge or an inoperative system.

If you have any questions regarding this bulletin, please contact ANSUL Quality Assurance at 1-800-862-6785 and press 4 for Quality Services or call 715-735-7411 ext. 73383

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

July 13, 2009 Alert 04-09
Washington, DC

EPIRB and PLB REGISTRATION

This Safety Alert addresses the importance of ensuring your Emergency Position Indicating Radio Beacon (EPIRB) and Personal Locator Beacon (PLB) are properly registered with the National Oceanic and Atmospheric Administration (NOAA).

One of the circumstances surrounding a recent major marine casualty involving an uninspected commercial fishing vessel was the improper registration of the vessel's EPIRB. The Unique Identification Number (UIN) entered into NOAA's registration database was different from the actual UIN programmed into the EPIRB by the manufacturer and transmitted to the Search and Rescue Satellite System after the vessel sank. The improper registration of this vessel's EPIRB delayed the notification to Search and Rescue personnel, and subsequently delayed the launching of rescue assets.

The Search and Rescue Satellite-Aided Tracking (SARSAT) System is composed of stationary and orbiting satellites. For any given location (outside of the Polar Regions), there is continuous coverage by a stationary satellite, and coverage by an orbiting satellite every 60 to 75 minutes on average (which includes the Polar Regions). The stationary satellites can receive all of the information transmitted by an EPIRB or PLB, but they are not capable of determining the position of the beacon unless the beacon has an optional GPS receiver (not all models carry this option). Normally, position identification is accomplished by the orbiting satellites. So, if a beacon is not equipped with the optional GPS, it could take up to 100 minutes for the orbiting satellites to identify the location of the beacon.

In the case of this casualty, the first notification was received by a stationary satellite soon after the vessel sank, but the orbiting satellites were not within range and the improper registration prevented the identification of the vessel's name, homeport and emergency contact information from being forwarded to the Search and Rescue authorities.

As a result of this incident NOAA has commenced an important safety initiative, emailing and mailing all owners/operators of EPIRBs and PLBs registered in the U.S. National Beacon Registration Database, and requesting that they follow the steps listed below. The U.S. Coast Guard supports this initiative, and **strongly recommends** all vessel owners and operators:

1. Confirm that current EPIRB and PLB registrations are correct. Cross-check that the UIN printed by the manufacturer on your EPIRB or PLB matches the UIN printed on the proof-of-registration decal sent to you by NOAA. The manufacturer-provided UIN is usually found on the exterior of the beacon, although in some cases the UIN is printed inside the beacon, under the beacon's battery. You can also cross-check that the above UINs match the NOAA registration database by visiting the National Beacon Registration website at: www.beaconregistration.noaa.gov and choosing one of the links for your existing beacon registration.

If any of the numbers or letters in the UINs are different, your beacon may not be registered properly and you should contact NOAA immediately at: (301) 817-4515 or 1-888-212-SAVE (7283).

2. Update EPIRB and PLB registrations if there are any changes to the vessel information, owner/operator information, emergency contact information, or if your registration information has expired. Registration data must be renewed every two years. Updates and renewals can be made using the same registration methods listed below.

3. Register new or previously unregistered EPIRBs and PLBs with NOAA via the internet at: www.beaconregistration.noaa.gov. *Note: Registration is mandatory and is required by Federal Regulation.*

   Alternatively, you can mail the registration form which can be found in the beacon's packaging, or downloaded from the beacon registration website provided above, to the following address:

   Beacon Registration
   NOAA/NESDIS,
   NSOF, E/SP3
   4231 Suitland Road
   Suitland, MD 20746

   The registration form can also be faxed to: (301) 817-4565.

If you have already received a registration safety notification from NOAA and responded accordingly, no further action is required until your next beacon renewal or update.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Design and Engineering Standards, United States Coast Guard Headquarters, Washington, DC and the NOAA Search and Rescue Satellite-Aided Tracking (SARSAT) Program Office, Suitland, MD.

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

June 16, 2009 Alert 03-09
Washington, DC

Avoiding propulsion loss from fuel switching: American Petroleum Institute Technical Considerations

Ships switch fuel oil from residual fuels to distillate fuels in order to reduce emissions. The Coast Guard expects ships will switch fuel more frequently to comply with new emission reduction regulations. When switching fuel oil, some ships have experienced propulsion losses linked to procedural errors or fuel oil incompatibility.

API developed a paper titled "Technical Considerations of Fuel Switching Practices" that discusses problems that lead to propulsion loss while switching fuel. It is available at http://marineinvestigations.us >Safety Reports. This document may be useful to vessel owners, operators, and engineers interested in preventing fuel system failures and propulsion casualties while meeting current and future exhaust emission control requirements.

In order to prevent casualties associated with fuel oil switching, the Coast Guard **strongly recommends** that owner and operators:

- Consult engine and boiler manufacturers for fuel switching guidance;
- Consult fuel suppliers for proper fuel selection;
- Exercise tight control when possible over the quality of the fuel oils received;
- Consult manufacturers to determine if system modifications or additional safeguards are necessary for intended fuels;
- Develop detailed fuel switching procedures;
- Establish a fuel system inspection and maintenance schedule;
- Ensure system pressure and temperature alarms, flow indicators, filter differential pressure transmitters, etc.., are all operational;
- Ensure system purifiers, filters and strainers are maintained;
- Ensure system seals, gaskets, flanges, fittings, brackets and supports are maintained;
- Ensure a detailed system diagram is available;
- Conduct initial and periodic crew training;
- Complete fuel switching well offshore prior to entering restricted waters or traffic lanes.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Design and Engineering Standards and Office of Investigations and Analysis, United States Coast Guard Headquarters, Washington, DC.

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

June 8, 2009 Alert 02-09
Washington, DC

Compact Fluorescent Lights

This Safety Alert serves to inform the maritime industry that energy saving Compact Fluorescent Lights (CFL) or lighting, sometimes known as radio frequency (RF) lighting devices may interfere with certain communications equipment. CFLs employ a RF lighting device to excite a gas inside a bulb in order to produce light.

The Federal Communications Commission (FCC) recognized the need for and adopted rules to control the harmful interference to radio communications services from these devices. During the rulemaking process the Coast Guard provided comments and recommended an advisory label for CFLs / RF lighting devices warning users about potential interference to communication services and particularly with respect to devices capable of producing emissions in the 0.45-30 MHz band. As a result, the FCC required manufacturers of CFLs to provide an advisory statement, either on the product packaging or with other user documentation, similar to the following: "This product may cause interference to radio communications and should not be installed near maritime safety communications equipment or other critical navigation or communication equipment operating between 0.45-30 MHz."

The Coast Guard has learned that CFLs have been installed on the navigation bridges of vessels and in other places capable of causing radio communications interference. Marine inspectors, vessel owners and operators **should be aware** of this potential safety hazard and take proper action as needed.

Below are examples of some compact fluorescent lights with different shapes and sizes.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Domestic Vessel Activities (CG-5431), United States Coast Guard Headquarters, Washington, DC.

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

April 16, 2009 Alert 01-09
Washington, DC

Electrical Shock Hazards

Earlier this year an engineer working onboard a chemical tank ship was electrocuted. The incident occurred while several engineers were preparing to test a circuit breaker. The engineer apparently made contact with the unprotected stripped ends of a conductor plugged into a live 480 volt power supply on an electrical test bench. The investigation is currently ongoing and is examining the other circumstances surrounding the casualty. However, important safety concerns have been noted. This alert serves as a reminder to the maritime industry about the dangers of working with electrical equipment.

With respect to this casualty, the corded three-conductor power supply line being used to connect to the breaker, also called a pig tail, should not have been energized until it was connected. Further, depending on the type of equipment it was being used with, its ends should have had high voltage insulated alligator clips or it should have been wired securely into the electrical component prior to testing. Under no circumstances should the ends have been handled with the power turned on.

The Coast Guard ***strongly recommends*** that all vessel owners and operators ensure that:

1. Circuits are de-energized prior to performing any work whenever possible.
2. Employees having electrical maintenance and repair responsibilities are fully trained regarding all safety precautions needed when working with potential electrical hazards.
3. Individuals wear appropriate safety gear - insulated shoes, dry clothing, hard hat, rubber gloves, and other required protective equipment.
4. Appropriate supervision is provided.
5. Procedures for the use of test panels and connectors and are found in the Safety Management System or other operating manuals and readily available.
6. Safe electrical equipment inspection, maintenance and repair procedures are available and followed closely.
7. Test equipment is properly maintained according to original plans.
8. Tools used in the repair of live equipment are properly insulated.
9. Test benches are both properly insulated and grounded in the appropriate areas.
10. Flooring and other surrounding areas of test benches are properly insulated and dry.

This safety alert is provided for informational purpose only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Investigating Officers at MSU Galveston and the Office of Investigations and Analysis, United States Coast Guard Headquarters, Washington, DC.

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

April 15, 2009 Alert 09-08 (Update)
Washington, DC

ELECTRONICALLY-CONTROLLED CARGO PUMP ENGINE COMPONENTS (UPDATE)

For many years, cargo pump engines on weather decks of Subchapter D & O tank barges had mechanical-type start and control systems. The installation of electronically controlled engines on tank barges since the 1990s has introduced non-approved electrical equipment associated with engine monitoring and control systems into hazardous locations (Class I, Division 1) on thousands of tank barges nationwide.

U.S. Coast Guard District Eight recognized this problem with John Deere manufactured engines and distributed enforcement guidance to their field units on November 22, 2005. Since then, John Deere has engineered retrofit packages for approximately 400 units and is currently seeking approval from the U.S. Coast Guard Marine Safety Center (MSC). Because of widespread use of electronically controlled engines, we suspect there may be other equipment currently in use that similarly is not designed or approved for hazardous locations. Other manufacturers of these engines will likely need to follow suit with their own retrofit packages.

46 CFR 111.105-31(1) defines Class I / Division 1 locations as any area located within 10 feet (3 meters) of a cargo tank vent outlet or ullage opening, or cargo pipe flange or valve on a tank barge that carries a flammable or combustible cargo with a flashpoint below 60 degrees C (140 degrees F). By regulations, electrical equipment located in hazardous locations must be approved intrinsically safe, explosion-proof, or purged and pressurized.

On John Deere electronically controlled cargo pump engines, electrical ignition sources were found in control panels, notification lights, alternators, batteries, computers, and associated wiring for engine sensors. Since new components are still being designed and tested, it may be some time before all electronic components on John Deere engines can be re-engineered and retrofitted for hazardous locations. Again, we suspect other makes of electronically controlled engines have the same issues.

John Deere has been working with the MSC on the approval of retrofit packages for their engines and has recently received approval for some models. Operators should contact their John Deere dealerships.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Domestic Vessel Activities (CG-5431), United States Coast Guard Headquarters, Washington, DC. Questions should be directed to LT James T. Fogle at (202) 372-1038 or james.t.fogle@uscg.mil.

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Office of Investigations and Analysis: http://marineinvestigations.us
To subscribe: kenneth.w.olsen@uscg.mil

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

December 4, 2008 Alert 13-08
Washington, DC

VENTILATION CLOSURES FOR FIXED GAS FIRE EXTINGUISHING SYSTEMS ON SMALL PASSENGER VESSELS

This Safety Alert addresses the importance of ensuring proper operation and adequacy of ventilation closure devices for spaces protected by fixed gas fire extinguishing systems on small passenger vessels. Properly operating ventilation closures ensure the effectiveness of the vessel firefighting systems and minimize the spread of fire to other areas of the vessel.

Recent vessel casualty investigations conducted by the U.S. Coast Guard and the National Transportation Safety Board (NTSB) into fires aboard small passenger vessels have raised awareness for the need to properly inspect and test ventilation closures for spaces protected by fixed gas fire extinguishing systems.

Federal Regulations require provisions for closing all supply duct cowls or scoops and exhaust duct discharge openings in spaces protected by fixed gas extinguishing systems. All closure devices must be readily available and mounted in the vicinity of the vent. As part of each annual inspection, attending marine inspectors should ensure the adequacy and serviceability of these closure devices in accordance with the CG 840 inspection guide. While observing fire drills in spaces covered by fixed gas systems, marine inspectors should ensure the vessel crews are familiar with these devices and ensure they are utilized properly during the conduct of the drill.

Small passenger vessels built on or after March 11, 1996 and small passenger vessels constructed of wood or fiber reinforced plastic (FRP) must have approved fixed fire extinguishing systems in certain machinery, fuel tank, and storage spaces which are described in 46 CFR 181.400 and 46 CFR 118.400. Vessels of other than wood or FRP construction built prior to March 11, 1996 must have a fixed system in machinery and fuel tank spaces using gasoline or other fuels having a flash point of 110° F or lower, paint and oil rooms, and cargo spaces which are inaccessible during a voyage and used for combustible cargo.

The U.S. Coast Guard strongly recommends that owners and operators, as well as marine inspectors, ensure the adequacy and test the operation of all ventilation closures for spaces protected by a fixed fire extinguishing system including both manual and automatic devices. Automatic closures should be tested and serviced by a qualified servicing facility in conjunction with the servicing of the fixed fire extinguishing system.

The regulations governing ventilation closures for spaces protected by a fixed gas fire extinguishing systems are contained 46 CFR Parts 182.465(h) and 119.465(h). These regulations are available through the U.S. Government Printing Office (GPO) and may be downloaded without cost from the GPO's internet website http://www.gpoaccess.gov/index.html. A fixed gas fire extinguishing system installed but not required by regulation must still function properly including the operation of ventilation closure devices.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Vessel Activities, Domestic Compliance Division (CG-5431), United States Coast Guard Headquarters, Washington, DC. Questions should be directed to Lieutenant Commander David Webb at (202) 372-1216 or David.M.Webb@uscg.mil.

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

November 19, 2008 Alert 12-08
Washington, DC

WATERTIGHT DOORS

This Safety Alert addresses the importance of properly maintaining and closing watertight doors. Unfortunately, marine casualties, often resulting in loss of life and property, continue to be linked to improperly maintained or closed watertight doors!

One of the contributory factors in a recent major marine casualty on an uninspected commercial fishing vessel was the failure to properly maintain and keep closed watertight doors on the vessel's weather deck. In this incident one watertight door was not properly dogged down, permitting it to open and let water flood a space below the main deck. Another watertight door on the vessel's main deck was not maintained and as a result, it leaked, permitting water to enter an adjacent space.

Over 42% of all marine casualties on fishing vessels involve flooding that in most cases could have been prevented or minimized by the proper use of watertight doors. Two safety alerts have been issued in the past two years emphasizing the importance of maintaining watertight doors and keeping them closed at all times while underway except when actually being used.

As a result of this incident and due to other related casualties, the U. S. Coast Guard **strongly recommends** vessel owners and operators to:

Regularly inspect the condition of all watertight doors on their vessels including the gasket and knife-edge to ensure that the doors close properly when dogged down securely. Watertight door gaskets should not be painted; any paint discovered on the gasket should be removed. Excessive gaps between the gasket ends should be avoided and repaired upon discovery;

Periodically perform either a chalk or light test on all watertight doors to ensure that the knife edge makes contact with the entire door gasket;

Ensure that all dogs or closing assemblies move freely and close securely. Routinely lubricate all watertight door fittings and hinges to ensure fluid operation; and

Ensure that vessel masters provide regular training on watertight door operation and maintenance to their crews. Watertight doors should be closed at all times while a vessel is underway except when transiting from space to space.

Please access http://marineinvestigations.us Safety Alerts > General Operations > "Securing Watertight Doors" and "Maintaining Vessel Watertight Integrity" for additional related information.

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Office of Investigations and Analysis: http://marineinvestigations.us
To subscribe: kenneth.w.olsen@uscg.mil

UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

November 18, 2008 Alert 11-08
Washington, DC

FISHING VESSEL STABILITY

This Safety Alert addresses the issue of unsafe loading practices onboard commercial fishing vessels.

One contributory factor in a recent major marine casualty on an uninspected commercial fishing vessel was improper loading of the vessel's fuel, water, fishing gear and catch. In this instance, the vessel's crew relied on an outdated stability book to determine the safe loading condition of the vessel. The stability book being used failed to account for heavy fishing equipment that had been removed from the vessel as well as new fish processing and equipment additions when it changed fishery operations.

As a result of this incident and due to other related casualties involving commercial fishing vessels, the U. S. Coast Guard **strongly recommends** vessel owners and operators to:

Review their stability book and ensure that it reflects the vessel's current design, equipment, and operations. Stability books, even when not required by regulation, should be maintained and used to ensure proper vessel loading. Many commercial fishing vessels are not required to be inspected or have load lines but still may have stability information that discusses how the vessel should be loaded and how fuel should be burned. If the vessel details provided in the stability book do not match the actual vessel, the recommended loading procedures in the outdated stability book could negatively alter the stability;

Conduct a new stability review when a vessel changes operations (e.g. new fisheries) if such operations are not already accounted for in the vessel's stability book. For example changing fishing operations from shrimp to King Crab may involve significant equipment changes on a vessel that results in a much greater load which could alter the vessel's stability;

Conduct a new stability review if significant weight changes are made to the vessel as a result of adding or removing equipment. For example, changing the material that fishing pots are composed of may change the weight of each pot. Depending on the type of fishing being conducted, hundreds of pots could be carried. The resulting weight difference and storage location of the pots could alter the vessel's stability;

Ensure that vessel masters and engineers are familiar with the contents of their vessel's stability book and understand how to use the loading information. Stability information is useless unless put into practice. Vessel masters and engineers must be familiar with this information to ensure that their vessel is loaded as designed at all times.

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

October 30, 2008 Alert 10-08
Washington, DC

NEW AUTOMATIC IDENTIFICATION SYSTEM (AIS) DEVICES MAY NOT BE DISCERNIBLE WITH OLDER AIS SOFTWARE

The U.S. Coast Guard is pleased to announce the availability of type-approved Automatic Identification System (AIS) Class B devices. These lower cost AIS devices are interoperable with AIS Class A devices and make use of expanded AIS messaging capabilities. Unfortunately, not all existing Class A devices are able to take full advantage of these new messaging capabilities. All existing AIS stations will be able to receive and process these new messages from a Class B device. However, they may not be able to display all Class B information on their Minimum Keyboard & Display (MKD) or other onboard navigation systems. In most cases, a software update or patch will be required to do so. Therefore, the **U.S. Coast Guard cautions new AIS Class B users to not assume that they are being 'seen' by all other AIS users** or that all their information is available to all AIS users. Further, the **U.S. Coast Guard strongly recommends that all users of out-dated AIS software update their systems as soon as practicable.**

The new Class B devices have the same ability to acquire and display targets not visible to radar (around the bend, in sea clutter, or during foul weather). They differ slightly in their features and nature of design, which reduces their cost and affects their performance. They report at a fixed rate (30 seconds) vice the Class A's variable rate (between 2-10 seconds dependent on speed and course change). They consume less power, thus broadcast at lower strength (2 watts versus 12 watts), which impacts their broadcast range; but, they broadcast and receive virtually the same vessel identification and other information as Class A devices, however, do so via different AIS messages.

Class A devices by design will receive the newer Class B AIS messages and their MKDs should display a Class B vessel's dynamic data (i.e. MMSI, position, course and speed), unfortunately, there are a few older models that do not. Although these older devices might not display the new AIS messages, they are designed—and tested—to receive and process these messages and make them available to external devices (e.g. electronic chart systems, chart plotters, radar) via a Class A output port. These external devices may also require updating in order to discern Class B equipped vessels.

AIS automatically broadcasts dynamic, static, and voyage-related vessel information that is received by other AIS-equipped stations. In ship-to-ship mode, AIS provides essential information that is not otherwise readily available to other vessels, such as name, position, course, and speed. In the ship-to-shore mode, AIS allows for the efficient exchange of information that previously was only available via voice communications with Vessel Traffic Services. In either mode, AIS enhances a user's situational awareness, makes possible the accurate exchange of navigational information, mitigates the risk of collision through reliable passing arrangements, facilitates vessel traffic management while simultaneously reducing voice radiotelephone transmissions, and enhances maritime domain awareness. The U.S. Coast Guard encourages its widest use.

The **U.S. Coast Guard advises mandated AIS users that Class B devices do not meet current AIS carriage requirements**—either the International Convention for the Safety of Life at Sea (SOLAS V/19.2.4) or U.S. regulations (33 CFR 164.46). The Coast Guard is in the process of expanding the current carriage requirements to include most self-propelled commercial vessels which navigate U.S. waters, and the use of Class B devices will be permissible on some of these commercial vessels. Prospective buyers, particularly those operating commercial vessels that are highly maneuverable, travel at high speed, or routinely transit congested waters or in close-quarter situations with other AIS equipped vessels should consider, albeit more expensive, AIS Class A devices in order to meet forthcoming requirements.

All users are reminded to maintain their AIS in effective operating condition at all times, including the information the AIS device broadcasts. Improper operation of AIS or inaccurate information could subject a person to civil penalties not to exceed $25,000 (46 USC §70119). For general information on AIS, carriage requirements, future AIS rulemakings and a listing of Coast Guard type-approved AIS Class A devices which require a software update in order to display AIS Class B information, visit http://www.navcen.uscg.gov/enav/ais .

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

October 23, 2008 Alert 9-08
Washington, DC

ELECTRONICALLY-CONTROLLED CARGO PUMP ENGINE COMPONENTS

For many years, cargo pump engines on weather decks of Subchapter D & O tank barges had mechanical-type start and control systems. The installation of electronically controlled engines on tank barges since the 1990s has introduced non-approved electrical equipment associated with engine monitoring and control systems into hazardous locations (Class I, Division I) on thousands of tank barges nationwide.

U.S. Coast Guard District Eight recognized this problem with John Deere manufactured engines and distributed enforcement guidance to their field units on November 22, 2005. Since then, John Deere has engineered retrofit packages for approximately 400 units and has gained approval from the U.S. Coast Guard Marine Safety Center for some engine models. Because of widespread use of electronically controlled engines, we suspect there may be other equipment currently in use that similarly is not designed or approved for hazardous locations. Other manufacturers of these engines will likely need to follow suit with their own retrofit packages.

46 CFR 111.105-31(1) defines Class I / Division 1 locations as any area located within 10 feet (3 meters) of a cargo tank vent outlet or ullage opening, or cargo pipe flange or valve on a tank barge that carries a flammable or combustible cargo with a flashpoint below 60 degrees C (140 degrees F). By regulations, electrical equipment located in hazardous locations must be approved intrinsically safe, explosion-proof, or purged and pressurized.

On John Deere electronically controlled cargo pump engines, electrical ignition sources were found in control panels, notification lights, alternators, batteries, computers, and associated wiring for engine sensors. Since new components are still being designed and tested, it may be some time before all electronic components on John Deere engines can be re-engineered and retrofitted for hazardous locations. Again, we suspect other makes of electronically controlled engines have the same issues.

Until complete retrofit packages are designed and approved for these engines, vessel operators and OCMIs should take immediate steps to eliminate the risk by ensuring all electrical components on tank barges are in sound and serviceable condition, and those components that that are not suitable for hazardous locations are replaced as soon as possible.

See the photographs below for examples of electrical components on electronically-controlled pump engines that should be examined, repaired or replaced. All electric starters should be removed and replaced with a hydraulic starter with a manual hand pump, or a pneumatic starter with the air compressor located in a non-hazardous location.

Alternators: If an alternator is used, it should be an approved flameproof or explosion proof alternator.

Typical flame proof /explosion proof alternator.

In some installations, cables between the alternator and battery were cut and a connector put in place to allow easier servicing. This alteration is not appropriate for hazardous locations. The cable seal on this alternator may not be the one approved for the alternator and may have to be examined.

Cable entries on flameproof or explosion proof enclosures require sealing fittings that are suitable for the enclosure.

Electronic displays should be enclosed in explosion proof enclosures.

Typical unacceptable electronic display. This is not in an explosion proof enclosure. The beacon installation shown here outside of the enclosure is also unacceptable.

Typical acceptable electronic display – This particular one was approved by the Marine Safety Center (John Deere Part No. RE531478)

Engine control units (ECU) should be installed in an explosion-proof enclosure or outside the hazardous zone.
On this particular ECU, a large hole was drilled in the bottom of the enclosure with multiple wiring harnesses coming into it and installed without any sealing compound installed in the cable gland. This is not acceptable in hazardous locations.

An acceptable engine control unit (ECU) enclosure is shown here with a sealing compound installed in a proper cable gland. Sealing compound poured in the conduit or cable seal fitting should surround each individual insulated conductor and the outer jacket of the cable, unless the cable is gas tight. Cables should be prevented from being pulled out of the conduit or cable seal fitting.

Batteries should be placed in explosion proof enclosures and should have an approved breather installed on top.

An acceptable battery installation as shown here, approved for this purpose should be the "sealed, gel or AGM" types.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Domestic Vessel Activities (CG-5431), United States Coast Guard Headquarters, Washington, DC. Questions should be directed to LT James T. Fogle at (202) 372-1038 or james.t.fogle@uscg.mil.

UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

October 23, 2008 Alert 8-08
Washington, DC

INSPECTION OF FUEL OIL QUICK-CLOSING VALVES

The U.S. Coast Guard **strongly recommends** that owners and/or operators, vessel engineers, marine inspection personnel and others involved with the technical examination of machinery space equipment fully understand the critical nature and importance of fuel oil quick-closing valves (FOQCVs) and associated systems. FOQCV systems must be well maintained and tested in the same way they would be used in an emergency (e.g. close all valves on each system at the same time). Crewmember knowledge, testing, maintenance and repair, system operation and limitations, documentation, and spare parts are essential elements to review during an effective evaluation of an FOQCV system.

During a fire onboard the USNS SHUGHART on March 5, 2004, more than half of the FOQCVs failed to close properly, which prevented the ship's service generators from being secured. The investigators found that the valves had not been well maintained and the testing protocol used onboard the ship did not test the valves properly. During testing, valves were closed using a hydraulic hand pump system; the quantity of oil within the system should be sufficient to close all of them. However, there is no way to determine that the system contains enough oil to close all the valves, if prior to completing the testing some of the valves are reset!

International and domestic regulations require that positive shutoff valves located outside the fuel tank be arranged with a means to be closed remotely from outside the compartment. These positive shutoff valves may be valves that are remotely closed gradually (e.g. turning a mechanical reach rod) or power operated.

FOQCVs are positive shutoff valves and they may be the final means of securing the fuel to a flammable liquid fire. It is absolutely critical that the ability to close the valves be maintained at all times. The periodic maintenance necessary to ensure proper operation of the FOQCVs must be given the highest priority, and completed as required. Records of completed maintenance and testing should be kept on board the vessel.

Because FOQCVs and other positive shutoff valves on fuel tanks have the potential to prevent loss of life and/or critical equipment during a fire, the importance of verifying their proper operation can not be overstated. As a result of the USNS SHUGHART casualty, the U.S. Coast Guard Office of Systems Engineering developed recommended inspection procedures for the testing and operation of FOQCVs which follow. The U.S. Coast Guard **strongly recommends** that owners and/or operators, vessel engineers, marine inspection personnel and others ensure:

a) The valve operating system is capable of remotely closing all valves in the event of a fire. It is imperative the system is tested as designed. It may be designed to close valves sequentially or simultaneously. Also, there may be manual input such as a hydraulic hand pump operation required at the remote control station. There is no defined time limit to close the valve; the time required will depend on the size of the valve and the system design.

b) There should be technical manuals on board containing diagrams and information that describe the system components, recommended spare parts requirements, maintenance and operation. Schematics and drawings of the systems should also be available.

c) All machinery space workers should be able to identify the valves and how to close them locally and remotely in an emergency. They should be able to demonstrate substantial knowledge of the system, its importance and operation. Ship engineers should be familiar with the technical manual and the associated maintenance requirements for all of the system components.

During Coast Guard inspections, engineers should be able to explain to the marine inspector the important aspects of the manual, as well as the general maintenance requirements of the system and provide information as to when it was last performed. Further, they should be able to explain how the valves are reset following closure. A good test of a crew member's general knowledge of fire fighting would be to ask them details of the technical items noted above with an emphasis on why these valves are important.

The domestic regulations enforced by the U.S. Coast Guard for positive shutoff valves are contained in 46 CFR Part 56.50-60(d), Subparagraph 3. These regulations are available through the U.S. Government Printing Office (GPO) and may be downloaded without cost from the GPO's internet website http://www.gpoaccess.gov/index.html.

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

September 19, 2008 Alert 7-08
Washington, DC

DANGER ALOFT

The U.S. Coast Guard **strongly encourages** that operators of vessels establish clear written guidelines and procedures for working aloft, require the use of safety harnesses, discourage and prohibit “rites of passage” such as described below. Going aloft to any height on any type of vessel is very serious and dangerous business, can be deadly and leaves no room for acts of daring or joking around!

We’re sadly reminded of that fact by the death of an 18 year old crewmember onboard a New England sailing vessel. This tall ship had embarked a group of students and set out for a beautiful day of sailing. About an hour into the cruise a crewmember slipped from the rigging and plummeted about 30 feet to the deck below sustaining terrible injury that resulted in his death.

Evidence in the casualty investigation indicated that this young man went aloft without permission, was unsupervised and alone and was participating in an informal rite of passage referred to in the tall ship community as “laying across the spring stay.” This involves crossing from one mast to another while hanging by your hands and feet on a wire called a “spring stay.”

The resultant Coast Guard casualty investigation concluded in part that, "The practice of laying across the spring stay is an extremely dangerous and unnecessary evolution, especially while the vessel is underway, and without a safety harness. Although crewmembers were not directed to use the spring stay, it appears the practice was not discouraged and was considered by some crewmembers as a daring accomplishment or rite of passage."

Further, the investigation concluded that:

- The policies regarding crew training for going aloft in the rigging onboard the vessel appeared to be “unstructured and loosely defined” relying primarily upon on-the-job type training with no written guidelines or procedures.

- The crewmember was not wearing any type of safety harness. This piece of safety equipment was neither required by regulation or by company policy and was not onboard the vessel at the time of the casualty.

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

September 19, 2008 Alert 6-08
Washington, DC

COUNTERFEIT EMERGENCY ESCAPE BREATHING DEVICES (EEBDs)

The U.S. Coast Guard has recently learned that counterfeit Unitor model UNISCAPE 15H EEBD Emergency Escape Breathing Devices (EEBDs) are being sold to ship operators and placed onboard commercial vessels. The U.S. Coast Guard **strongly encourages** that all vessel owners and operators with EEBDs onboard carefully and thoroughly inspect them for authenticity. If any doubt exists as to the authenticity, they should immediately contact their emergency equipment vendors and / or the manufacturer for verification or replacement.

The number of fake units sold and currently onboard vessels is unknown and could be substantial. The fake reproduction will not fit over an individual's head and the automatic air release valve will not open. A crisis situation requiring the use of an EEBD will be severely compounded, potentially leading to death, should a crewmember inadvertently rely on a fake reproduction.

Differentiating factors:

An authentic Unitor UNISCAPE 15H is contained in a shiny PVC bag. When viewed from the front with the instruction icons upside down, the zipper opens from left to right, and at the most left section of the zipper is a two centimeter gap covered by a clear tab that has a button closure.

The **fake reproduction** is contained within a **dull canvas-like** material bag. When viewed from the front with the instruction icons upside down, the **zipper opens from right to left**, and at the most left section of the zipper there is no opening, although a tab made of what appears to be the same material of the bag is present with a button closure. This unit will not automatically activate.

Note: Authentic Unitor UNISCAPE 15H EEBDs are not permitted on U.S. flag vessels because they are not National Institute for Occupational Safety and Health certified.

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

September 17, 2008 Alert 5-08
Washington, DC

PREVENTING ENGINE EXHAUST SYSTEM FIRES

This Safety Alert addresses the issue of preventing unwanted fires caused by high temperature components associated with turbochargers and engine exhaust systems in close proximity to combustible ship structures.

Two recent marine casualties involving inspected passenger vessels resulted in personnel injury, fire damage to machinery and ship structures, operational down time and lost revenues. In both cases, the vessels were recently re-powered with new turbocharged engines having exhaust systems designed to operate at higher temperatures than the previous engines. Investigations into each case identified common discrepancies as follows:

- Failure to properly insulate or shield combustible ship structures from engine exhaust systems in accordance with 46 CFR §182.430.
- Failure to properly submit documentation for plan review, which may have identified failures to comply with 46 CFR regulations.

As a result of these recent incidents and due to other related casualties involving small passenger vessels, the U. S. Coast Guard **strongly recommends** vessel owners and operators to:

Inspect vessel engine exhaust systems, machinery spaces, and exhaust compartments to verify that lagging and insulation are properly installed to shield hot surfaces and combustible materials. Proper insulation and shielding methods will help to prevent fires due to flammable and combustible liquids spraying onto hot surfaces (i.e. turbochargers, exhaust piping) and will prevent combustible surfaces (i.e. wood, fiberglass, FRP) from heating up to ignition temperatures due to close proximity to hot surfaces. Pay particular attention to areas where exhaust systems penetrate bulkheads and decks, making sure that combustible surfaces are properly shielded and/or insulated using non-combustible materials.

Ensure that proper submittals for plan review are made and documented with the local U.S. Coast Guard Sector Office of Prevention. Plan reviews are required whenever engines and/or propulsion systems are changed or modified. This includes re-engine projects where engines are not replaced in-kind, but with different types of engines or engine manufacturers.

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

September 5, 2008 Alert 4-08
Washington, DC

UNLICENSED TO DRIVE

The Coast Guard strongly reminds the towing industry of its responsibility to properly man their vessels with adequate numbers of qualified and licensed crewmembers.

Recently, a collision on the Mississippi river near downtown New Orleans between a Cargo Ship and a loaded oil barge being pushed by an Uninspected Towing Vessel (UTV) resulted in a major oil spill, significant environmental damage, a costly oil spill cleanup response, closed "The River" for six straight days, and caused significant economic loss to the local Louisiana economy.

The Commander, Eighth Coast Guard District, convened a formal investigation into the incident. While the investigation continues, the preliminary findings of this inquiry have revealed that the tug was operated solely by an individual who held a Coast Guard Apprentice Mate (Steersman) license and who was not authorized to independently direct its movement. An apprentice is strictly prohibited from operating a towing vessel unless in the presence of a properly licensed Master or Mate (Pilot). Coincidentally, just a few days prior to this incident another UTV was involved in a marine casualty that resulted in the sinking of the tug. The preliminary investigation into that incident revealed that the crewmember operating that vessel at the time of the casualty only held a Coast Guard Apprentice Mate license and similarly was not authorized to independently operate the tug.

Failure to properly man a vessel may result in significant penalties and fines, not to mention other, possibly more significant and costly civil litigation. Possible enforcement actions include issuing civil penalties, taking mariners who hold a Coast Guard issued credential (e.g. a license or merchant mariner's document) to a suspension and revocation hearing in order to suspend or revoke that credential, and/or refer a violation to the United States Attorney for criminal prosecution. The Coast Guard may also shut down the operation of vessel or facility, or prohibit a vessel from entering a particular port or place until such time a specific violation is corrected.

While the costs associated with the fines and penalties can be very severe, had this incident involved a collision with a small passenger vessel or ferry commonly known to transit in and around New Orleans this casualty may have had a much more severe outcome: a significant loss of life!

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

July 2, 2008 Alert 3-08
Washington, DC

Controllable Pitch Propeller Systems and Situational Awareness

A marine casualty in March of 2008 involving a fishing vessel in the Bering Sea resulted in multiple fatalities and complete loss of the vessel. A Marine Board of Investigation is currently examining the various circumstances surrounding the casualty. Although the investigation is not complete, safety issues associated with casualty have been identified that merit immediate public dissemination.

Based on the survivors' testimony, the crew experienced difficulty with launching and entering the three liferafts because the vessel was making considerable sternway when the order to abandon ship was issued. Evidence indicates the main engines were still running and the vessel was backing with significant astern pitch. Consequently, two of the liferafts quickly traveled forward past the bow of the vessel when they were launched. Attempts to retrieve the liferafts using the painter lines were unsuccessful. As a result, the majority of the crew members were forced to jump into the 34°F water and attempt to swim to the liferafts. Ultimately, only 22 members of the vessel's crew made it into the liferafts. All of these crew members survived. Of the other 25 crew members who never made it into a liferaft, four died and one remains missing.

The Coast Guard ***strongly recommends*** that owners, operators, and masters of vessels with controllable pitch propellers understand the design and operation of the system. This includes the primary and emergency sources of power for both the control and main systems, the location and procedures for using alternate control stations, and the locations of the emergency shutdowns. While controllable pitch propeller systems are generally designed and constructed to fail in the "as is" position, in hydraulic CPP systems, the actual blade pitch may change. In this case the vessel was making considerable sternway. This was not a unique occurrence. The MS EXPLORER also experienced this problem before it sank in November of 2007. Vessel operators, masters and crew members must be prepared to respond accordingly.

In light of this incident, vessel owners, operators, masters and crew members should also be mindful of the following safety issues:

1. Vessel masters and officers must maintain situational awareness at all times and understand the effects of their actions and decisions on the safety of their crew, especially during emergency situations involving flooding. This includes understanding what impact the vessel's speed, heading, heel, and trim will have on the crew as it abandons ship.

2. The master or individual in charge must evaluate the particular circumstances of each emergency situation (weather, seas, experience of crew, condition of vessel, etc.) and adjust emergency procedures accordingly to provide for the safety of his crew, vessel, and the environment.

3. All crew members should understand that immersion suits will affect their dexterity, limit mobility, and may make it more difficult to launch survival craft, particularly when the survival craft are covered with snow or ice. Crew members responsible for launching the survival craft should practice and be able to do so with their immersion suits on. Lifesaving gear should be kept free of ice and snow whenever possible.

4. When abandoning ship, crewmembers should make every effort to enter directly into a liferaft or lifeboat before entering the water. If crewmembers must enter the water, they should stay together and attempt to enter a liferaft, climb onto floating debris, or use any other means available to get themselves out of the water as soon as possible.

5. Emergency Drills should not be limited to routine procedures such as donning immersion suits. Emergency drills should ensure all crew members, including bridge and engine room personnel, understand and practice what to do in various emergency situations under actual conditions.

Additional information regarding emergency procedures for Commercial Fishing Vessels can be found at: http://www.fishsafe.info .

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

June 26, 2008 Alert 2-08
Washington, DC

CHANTIX MEDICAL ADVISORY FOR MERCHANT MARINERS

On May 21, 2008, the Institute for Safe Medication Practices released a report on side effects and concerns associated with the use of Chantix (varenicline). Chantix is a medication used to help patients quit smoking. To date, over four million prescriptions have been written in the United States.

The Institute for Safe Medication Practices report states the following: There are immediate safety concerns about the use of Chantix among persons operating aircraft, trains, buses, and other vehicles, or in other settings where a lapse in alertness or motor control could lead to massive, serious injury. Other examples include persons operating nuclear power reactors, high-rise construction cranes or life-sustaining medical devices. Based on reports of sudden loss of consciousness, seizures, muscle spasms, vision disturbances, hallucinations, paranoia and psychosis, Chantix may not be safe to use in these settings. The extent to which Chantix has already contributed to accidental death and injury has not been fully investigated and reported. For additional information access - http://www.ismp.org/docs/varenicline Study.asp .

Although not specifically mentioned in the report, the maritime domain is one setting where lapses in alertness or motor control can have catastrophic results. The safety of the maritime community and the public, and the protection of the environment are paramount. Ensuring that medications prescribed do not put mariners and others at increased risk of injury or death is essential.

The Coast Guard reminds all maritime industry personnel that mariners should not perform a safety-sensitive function on any vessel while under the influence of any substance that may negatively impact their performance. To that end, mariners are strongly warned that some prescription medications, over-the-counter medications, vitamins and dietary supplements, alone or in combination with other substances, may adversely affect an individual's ability to perform critical functions and place the individual at risk of sudden incapacitation. Mariners should seek the advice of their healthcare provider before taking any medications, vitamins or dietary supplements.

If you are currently taking or have recently discontinued the use of Chantix, we strongly recommend that you consult with your healthcare provider to discuss potential side effects and your job performance requirements. You and your healthcare provider should be alert to and monitor for all physical and psychological changes that may affect your performance, both while taking this medication as well as during the withdrawal period. If you are experiencing any of the psychiatric, cardiologic, musculoskeletal or visual side effects associated with Chantix, you should immediately cease performance of all duties related to your mariner credentials and contact your healthcare provider.

Questions regarding this notice may be addressed to Lieutenant Junior Grade Elizabeth Braker, Medical Evaluation Branch, Coast Guard National Maritime Center at (304) 433-3656 or Elizabeth.L.Braker@uscg.mil.

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Assistant Commandant for Marine Safety, Security and Stewardship

May 9, 2008
Washington, DC

Alert 1-08

Maintaining Vessel Watertight Integrity

This Safety Alert addresses two issues: watertight integrity and high level bilge alarms.

Recently a marine casualty involving a fishing vessel in the Bering Sea resulted in multiple fatalities and complete loss of the vessel. A Marine Board of Investigation is currently examining the various circumstances surrounding the casualty. Although the investigation is not complete, testimony indicates the flooding of the vessel may have been exacerbated due to open or leaking watertight doors and other compartmental deficiencies which impacted the vessel's overall watertight integrity.

As a result of this and other similar casualties, the U. S. Coast Guard **strongly recommends vessel owners and operators:**

WATERTIGHT INTEGRITY

Ensure all watertight decks and bulkheads are inspected periodically to verify that there are no unprotected openings or improper penetrations that will allow progressive flooding and that closure devices (e.g. watertight doors, duct closures, etc.) are in place and in working order.

Ensure all crewmembers are familiar with the locations of the watertight doors (WTDs) and weather tight closures throughout their vessels. Knowing the locations of such WTDs and weather tight closures should be part of the crewmember vessel familiarization process.

Ensure WTDs and hatches are closed while at sea and as otherwise specified in the stability guidance provided to the master or individual in charge. The importance of keeping WTDs and hatches closed should be emphasized on a regular basis (e.g. at safety meetings). WTDs and hatches should be opened only briefly to allow passage and labeled appropriately to remind crewmembers to close them. If they must remain open to permit work, WTDs and hatches should be attended at all times so that they can immediately be closed. Any WTDs permitted to be open while the vessel is underway should be secured during drills to ensure they work properly.

Implement a WTD inspection program to ensure each WTD is regularly inspected and properly maintained. As part of the inspection of each WTD, the following should be examined: straightness of the knife edge; the door assembly for twisting or warp-age; evidence of loose, missing seized or damaged components; permanent set in gasket material, cracks in the gasket; gaps at gasket joints; paint, rust, or other foreign material on gaskets, knife-edges and working parts; binding and difficult operations; and loose or excessively tight dogs. Rotating spindles of the dog, handles and hinges, and other points of friction should be lubricated to prevent seizing and allow proper closure. If fitted, the spindle packing should also be examined.

Ensure watertight hatches, dogged manholes, bolted manhole covers, and access plates are given similar examinations, focusing on the sealing surfaces and the method by which the hatch is secured. Gasket materials should be replaced whenever they are found insufficient. Regardless of the type of hatch or access, every component that secures the device, such as dogs, wing nuts, or bolts should be inspected, lubricated and free, and repaired or replaced as necessary to ensure they operate properly. As with watertight doors, hatches and accesses should be labeled to indicate they remain closed while underway. Most importantly, all securing devices must be used when the hatch or access is closed. Improper closure of a hatch will not prevent flooding.

Ensure compartments and external hull structures fitted with ventilation ducts that have hinged covers with gaskets, hinges, sealing surfaces and securing mechanisms are regularly inspected and properly maintained (see above for guidance).

Ensure electrical cables and conduits, piping runs, remote valve actuators, and other components that penetrate watertight bulkheads, decks, and compartments are inspected frequently and properly maintained. Each may have a unique sealing method involving glands with packing assemblies, penetration seals, or other methods. Frequent inspection and proper maintenance of these various fittings and assemblies will assist in minimizing the possibility of progressive flooding.

BILGE AND HIGH WATER ALARMS

Ensure water accumulation is minimized and all spaces are kept dry unless permitted by the stability instructions provided to the master or individual in charge.

Ensure bilge high level alarms are arranged to provide the earliest warnings of abnormal accumulation. The high level bilge alarms should be set as low as possible to the deck or bilge well and positioned along the centermost area of the compartment or in a location at which the fluids will gravitate to first. In areas where bilge water routinely accumulates, the bilge high level alarms should be placed just above the point where under normal working conditions the accumulation would be pumped to a holding tank, overboard, or through an oily water separation system if required. Alarms may be fitted with short time delays to prevent nuisance alarms caused by the rolling and pitching of the vessel.

Ensure all crewmembers understand the importance of minimizing water in the bilges.

Provide the funding, labor, spare parts, and vessel availability necessary to ensure leakages stemming from machinery, equipment and other components are kept to a minimum at all times in accordance with good marine practice.

This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed and distributed by the Office of Investigations and Analysis, United States Coast Guard Headquarters, Washington, DC.

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United States Coast Guard
Marine Safety Alert
Assistant Commandant for Prevention
Department of Homeland Security

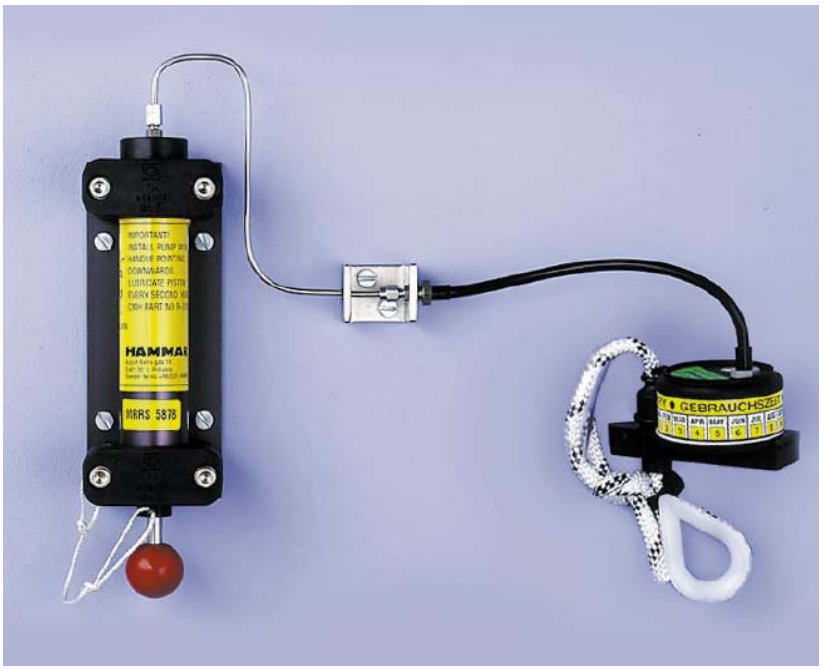
September 26, 2007
Washington, DC

Alert 4-07

Hammar Manual Remote Release System Pneumatic Pump Units

An investigation into the circumstances surrounding a recent passenger ship grounding revealed difficulties the crew had in manually deploying the vessel's liferafts from their mounting cradles. The liferafts were fitted with individual Hammar Manual Remote Release System (MRRS) pneumatic vacuum pump units. When the pumps are manually operated a vacuum is quickly and easily created that actuates a corresponding Hammar H20 hydrostatic release unit. In this case a large number of those pumps failed to activate the hydrostatic release units and, ultimately, the crew had to manually cut the liferaft canister lashings. The crew was able to launch all of the vessel's liferafts successfully in this manner.

The casualty investigation is not complete and additional recommendations are likely to follow. However, in the interim, the United States Coast Guard strongly recommends that Hammar MRRS pneumatic pump units, as well as all other survival equipment, be maintained in accordance with the manufacturer's recommended maintenance schedules.



MRRS pump units are clearly marked in black letters on a yellow background on the cylinder housing, "Lubricate piston every second year." The pumps that failed had not been lubricated as required. The malfunctioning MRRS pumps were replaced in kind with new units; USCG inspection showed that the new units operated properly. Owners, operators, port engineers, inspectors and others involved in vessel safety should ensure that all appropriate steps are taken to properly maintain survival equipment.

Questions or comments regarding this safety alert may be addressed to Mr. George Grills of the U.S. Coast Guard Headquarters Lifesaving and Fire Safety Standards Division at 202.372.1385 or george.g.grills@uscg.mil. This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement.

United States Coast Guard
Marine Safety Alert
Assistant Commandant for Prevention
Department of Homeland Security

September 19, 2007 Alert 3-07
Washington, DC

SECURING OF WATERTIGHT DOORS WHILE UNDERWAY

This safety alert reiterates the need for vessel operators to ensure that watertight doors are always closed while underway, except when being used for access. This alert is the direct result of a collision between a 534' cargo ship and a 166' offshore supply vessel. The incident occurred on the Mississippi River, in a restricted visibility situation. As a result of the collision, the offshore supply vessel capsized and sank – the crew of five was lost.

During the ensuing investigation of this incident, evidence was uncovered that indicated the offshore supply vessel was operating with its watertight doors in the open position. This is a violation of 46 CFR 174.210(e), which states that the master must ensure that a watertight door is always closed, except when being used for access. Watertight doors are a critical part of a vessel's subdivision, and consequently a critical part of damage stability considerations, so the importance of keeping these closed is very obvious. This becomes even more critical on smaller ships, which may only have one or two watertight doors to prevent flooding the entire length of the ship.

Please, keep these doors closed!

The Office of Design and Engineering Standards, Naval Architecture Division (CG-3PSE-2) developed this alert. Questions pertaining to this safety alert may be addressed to LCDR Tracy Phillips at (202) 372-1373 or Tracy.Phillips@uscg.mil.

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United States Coast Guard
Marine Safety Alert
Assistant Commandant for Prevention
Department of Homeland Security

September 6, 2007
Washington, DC

Alert 2-07

Programming Marine Radio and AIS Equipment

Statistics show that many mariners in distress do not properly identify themselves nor provide a precise location when radioing for help which delays rescue services in arriving at the scene quickly and providing the assistance needed. Many marine communication devices, including marine radios equipped with Digital Selective Calling (DSC) and Automatic Identification Systems (AIS) equipment rely upon a 9-digit Maritime Mobile Service Identity (MMSI) number to identify itself and more importantly the user of the device.

The U.S. Coast Guard and the National GMDSS Task Force[1] is concerned that many users of these devices are not obtaining, registering and/or properly entering their assigned MMSI into these devices. Lack of an MMSI will make some of these devices inoperable, such as AIS, or incapable of operating advanced features[2] or distress alerting capabilities of the device. Leaving the MMSI unprogrammed, entering a false identity or not updating a previously-programmed device with your own identity may delay a rescue and under certain situations is unlawful.

MMSI use and registration greatly assists the U.S. Coast Guard in responding to an alert since it contains a description of the vessel and telephone numbers used to contact the vessel's owner or point of contact in an emergency. MMSI numbers are issued by the FCC if the vessel requires a Station License, otherwise they can be obtained from Boat U.S. (www.boatus.com/mmsi), Sea Tow (www.seatow.com/boating_safety/mmsi), and Shine Micro (www.shinemicro.com) often at no charge. Those having MMSIs should keep registration information current, including phone numbers, address, name and type of boat.

Most new marine radios have a special Distress Alerting Capability that will, upon the touch of a button, transmit a distress message which can include its identity (MMSI) and location—only if the radio has been programmed with a MMSI and is connected to a electronic positioning system (e.g. GPS, LORAN). The Coast Guard recommends DSC-equipped VHF radios for all mariners because of these capabilities.

[1] The **Global Maritime Distress and Safety System (GMDSS) Task Force** was created by the Coast Guard to assist the government in implementing this new global radio safety system. The GMDSS Task Force is sponsored by the **Radio Technical Commission for Maritime Services** (RTCM). *This safety alert is directed primarily to organizations and media which cater to Recreational Vessels and small Commercial Vessels.*

[2] In addition to the distress alerting capability, DSC radios have the ability to make routine calls amongst each other, usually by entering the other radio's MMSI and touching the transmit button. Once the two radios have connected, they automatically switch to a communication channel so that a conversation can take place. This is all done without having to hail by a voice call and/or use channel 16.

The Task Force is also on record recommending that all vessels going as much as one mile offshore should carry a VHF radio (preferably DSC) and if exceeding VHF range (20-30 miles) should carry a 406 MHz Emergency Position Indicating Radio Beacon (EPIRB) or a 406 MHz Personal Locater Beacon (PLB) which can be detected by search and rescue satellites almost anywhere in the world.

Coast Guard's Rescue 21 Project is Upgrading the Coastal Network for DSC Reception. The Coast Guard has implemented an extensive project to fill gaps in its VHF coastal radio coverage and to upgrade the system for DSC operation. Rescue 21 is currently operational in portions of the Pacific Northwest, Gulf of Mexico, Florida, and the East coast. Vessels with DSC capability should not delay obtaining, registering, and/or properly entering their assigned MMSI into their radios while Rescue 21 coverage is increased. There is already an extensive watch on the DSC calling channel by other vessels who can relay alerts to the Coast Guard.

Visit these websites (or email) for additional information:

AIS, DSC, GMDSS at www.navcen.uscg.gov/marcomms (CGComms@uscg.mil)
Global Maritime Distress and Safety System Task Force at (gmdss@comcast.net)
Rescue 21 at http://www.uscg.mil/rescue21/home
RTCM at www.rtcm.org (info@rtcm.org)

This material is provided for informational purpose only and does not relieve any existing domestic or international safety, operational or material requirement.

United States Coast Guard
Marine Safety Alert
Assistant Commandant for Prevention
Department of Homeland Security

March 15, 2007 Alert 1-07
Washington, DC

COMMERCIAL DIVING SAFETY

As a result of Hurricane Katrina and Rita recovery operations, and growth in oil and gas exploration and extraction activities, there has been increased commercial diving activities in U.S. waters. The Minerals Management Service (MMS) and the U.S. Coast Guard have observed that the increased commercial diving activity has been accompanied by an increase in diver fatalities and injuries.

This safety alert reiterates the need for commercial diving persons-in-charge and diving supervisors to fully meet their responsibilities prescribed in 46 CFR 197 Subpart B, and within the voluntary industry consensus standards which have been adopted by many companies.

Of particular importance are the following requirements:

A pre-dive briefing which includes

(a) The tasks to be undertaken;

(b) Any unusual hazards or environmental conditions likely to affect the safety of the diving operation;

(c) Any modifications to the operations manual or procedures including safety procedures necessitated by the specific diving operation; and

(d) Instructions to report any physical problems or physiological effects including aches, pains, current illnesses, or symptoms of decompression sickness prior to each dive.

A pre-dive inspection of equipment including the breathing gas supply systems, masks, helmets, thermal protection, when provided, and bell lifting equipment, when a bell is provided or required.

Maintenance at the dive location for each diver during the dive of a depth, bottom time profile (except that SCUBA divers shall maintain their own profiles).

Effective onsite communications.

A post-dive check of the diver's physical well-being and other required communications.

The availability of first aid and treatment equipment.

The availability and use of a currently maintained Operations Manual which provides for the safety and health of divers and which contains:

(a) Safety procedures and checklists for each diving mode used.

(b) Assignments and responsibilities of each dive team member for each diving mode used.

(c) Equipment procedures and checklists for each diving mode used.

(d) Emergency procedures for -

(i) Fire;

(ii) Equipment failure;

(iii) Adverse environmental conditions including, but not limited to, weather and sea state;

(iv) Medical illness; and

(v) Treatment of injury.

(e) Procedures dealing with the use of -

(i) Hand-held power tools;

(ii) Welding and burning equipment; and

(iii) Explosives.

The commercial diving regulations enforced by the U.S. Coast Guard are contained in 46 CFR 197 Subpart B. These regulations are available through the U.S. Government Printing Office (GPO) and may be downloaded without cost from the GPO's internet website http://www.gpoaccess.gov/index.html .

The Office of Operating & Environmental Standards (CG-3PSO) developed this alert. Address any content questions to LCDR Kenneth Bryan at Kenneth.R.Bryan@uscg.mil.

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U.S. Coast Guard
Safety Alert
Marine Safety, Security and Environmental Protection

March 2, 2006 Alert 1-06
Washington, DC

Strike First Fire Extinguishers

Recently the U.S. Coast Guard has become aware of a recall notice for some U.S. Coast Guard approved fire extinguishers made by the Strike First Corporation of America.

Strike First has determined that the valve stem seats in a number of its 2.5 and 5 lb dry chemical fire extinguishers assembled between December 2002 and February 2004 may prevent the extinguisher from discharging properly when the lever is activated. As a result of this condition, Strike First has initiated a fire extinguisher retro-fit program for these units. Retro-fit kits are available free of charge by contacting your Strike First distributor, or by contacting Strike First directly.

The Coast Guard recommends that vessel operators verify the manufacturer of their fire extinguishers, and if applicable, take the action recommended by the manufacturer. For details visit: http://www.strikefirstusa.com/serv_bull_002.htm

Questions or comments regarding this safety alert may be addressed to Mr. Klaus Wahle of the U.S. Coast Guard Headquarters Life Saving and Fire Safety Standards Division at 202.267.0256 or kwahle@comdt.uscg.mil.

This safety alert is provided for informational purpose only and does not relieve any domestic or international, safety, operational, or material requirement.

U.S. Coast Guard
Safety Alert
Marine Safety, Security and Environmental Protection

November 10, 2005 Alert 6-05
Washington, DC

U.S. Coast Guard Rescue Coordination Center, Alameda - Domain Name Change

The U.S. Coast Guard Rescue Coordination Center in Alameda, California (RCC Alameda) will undergo a computer domain change on Saturday, November 12th and Sunday, November 13th. As a result of this domain change, the email address for RCC Alameda will change from rccalameda@d11.uscg.mil to rccalameda@uscg.mil.

In order to ensure that all critical e-mail is received, all e-mail sent to the old address will be automatically forwarded to the new address for approximately one year following the domain change. As the United States' only designated authority to receive Ship Security Alert System (SSAS) reports, all SSAS units utilizing email notification functions must update their equipment.

Questions or comments regarding this information may be addressed to CPO David Hollowood of the office of Maritime Port Security at dhollowood@comdt.uscg.mil or 202.267.1538.

U.S. Coast Guard
Safety Alert
Marine Safety, Security and Environmental Protection

October 24, 2005 Alert 5-05
Washington, DC

Automatic Identification System (AIS) - Saab Transponder Timing Problem

It has come to the attention of the U.S. Coast Guard that there is a functional timing problem with Saab R3 and R4 Class A mobile AIS equipment. This timing problem creates a safety risk. This timing problem results in increased interference with other mobile AIS equipment, as well as the possibility that broadcasts of the R3 and R4 will not be received by other models of Class A equipment. Interference (slot collisions) can reduce the AIS communications quality, especially in regions with heavy use of AIS.

Saab TransponderTech AB recommends that owners of the R3 and R4 transponder products contact their dealers for a software and equipment upgrade to repair the timing problem.

Background: All AIS equipment uses UTC time for synchronizing transmissions. A leap second will be added to UTC time at midnight, 31 December 2005. The leap second was introduced in the internal GPS receiver module in the R3 and R4 when the announcement of the additional leap second was made in July. Due to the incorporation of the leap second, the timing of R3 and R4 transmissions is in error by one second and will remain that way until 31 December 2005.

This timing error causes each transmission to begin in the middle of a time slot rather than at the beginning of the time slot. This results in the use of two time slots. A normal transmission uses one time slot. Therefore there is a risk that AIS transmissions from these transponders will interfere with the transmissions of other AIS equipment. Also, because of variations in AIS receiver designs, these transmissions may not be received by certain brands of AIS equipment.

To view the announcement from Saab TransponderTech AB -
http://www.uscg.mil/hq/g-m/moa/docs/Saab505.pdf

Questions or comments regarding this safety alert may be addressed to Mr. Joe Hersey, Jr., Chief, Spectrum Management Division at 202.267.1358 or jhersey@comdt.uscg.mil.

This safety alert is provided for informational purpose only and does not relieve any domestic or international, safety, operational, or material requirement.

U.S. Coast Guard
Safety Alert
Marine Safety, Security and Environmental Protection

June 22, 2005
Washington, DC

Alert 4-05

Personal Flotation Devices - Incorrect CO_2 Cylinder Installation / False Positive Service Indicators

Recently the U.S. Coast Guard has become aware of a potential problem when installing CO_2 cylinders that have bayonet tips in inflatable personal flotation devices (PFDs or life jackets). If a cylinder is not properly installed, the PFD will not inflate with CO_2. The problem may affect several thousand PFDs, but the Coast Guard is only aware of one incident to date.

Some Mustang, Protexion, and Stearns/SOSpenders PFDs using Halkey-Roberts' inflators can indicate a green "Ready" status when the CO_2 cylinder is not properly installed. This false positive green indication occurs when the cylinder-bayonet assembly is inserted in the inflator, not turned, and the cylinder is not ejected.

Cylinders with bayonet tips are designed to be pushed in and turned $1/8^{th}$ turn clockwise to a full stop to secure the cylinder. When the cylinder is not turned to secure it in place, the PFD will not inflate with CO_2. The PFD may still be inflated orally. If the CO_2 cylinder is not turned, the mechanism is supposed to eject it. In some production units a false positive green indication can be achieved by simply pushing the cylinder into the mechanism without turning it $1/8^{th}$ turn to a full stop. According to the consumer report, a user was led to believe the cylinder-bayonet was properly engaged without turning it due to the firm seating of the cylinder-bayonet, which also prevented the cylinder-bayonet from ejecting as designed.

Consumers should check the model number of the PFD (located on the manufacturer's label) to see if your PFD is affected. The models numbers are:

Manufacturer	PFD Model #	Contact Number
Mustang Survival Customer Service 3870 Mustang Way Bellingham, WA 98226 USA	MC1900 Automatic MC1900HR Automatic w/ Harness MD0100 LIFT Vest Manual MD0200 LIFT Vest Automatic MD3081 Manual MD3082 Manual with Harness MD3083 Automatic MD3084 Automatic w/ Harness All colors and Styles	1-800-526-0532 (USA) 1-800-661-6181 (CAN) www.mustangsurvival.com

Manufacturer	PFD Model #	Contact Number
Protexion Products Inc. 643 Speedvale Ave W Guelph Ontario N1K 1E6 CANADA	NIV3000, Manual NIV3500, Manual with Harness NIV4000, Automatic NIV4500, Automatic with Harness	1-800-268-3112 www.nautilusbyprotexion.com customerservice@protexionproducts.com
Stearns Inc. 1100 Stearns Drive Sauk Rapids, MN 56379 (also SOSpenders)	38MLNG, Manual 38MHRN, Manual w/ Harness 24MSPT, Manual 38MREG, Manual 38MBP, Manual 38ASSTD, Automatic 38ASHAR, Automatic w/ Harness 38ASPRO, Automatic 38CHR, Automatic and Manual 1469, Automatic 1473, Automatic with Harness	1-800-328-3208 EXT 1 www.stearnsinc.com

Updated cylinder installation instructions are on the home pages of manufacturers' websites and at the Coast Guard website listed below. Review and follow the instructions. Check your device to ensure that the inserted CO_2 cylinder-bayonet has been fully turned clockwise prior to use.

If your PFD inflator does not eject an unturned cylinder-bayonet, contact the PFD manufacturer for servicing.

View the following documents for updated rearming instructions:

Manual inflator rearming – http://www.uscg.mil/hq/g-m/moa/docs/co2man.pdf
Automatic inflator rearming - http://www.uscg.mil/hq/g-m/moa/docs/co2auto.pdf

For other PFD related recalls and alerts access - http://www.uscg.mil/hq/g-m/mse4/recall.htm
For additional safety alerts access - http://marinesafetyalerts.us

This safety alert is provided for informational purposes only and does not relieve any existing domestic or international safety, operational, or material requirement.

U.S. Coast Guard
Safety Alert
Marine Safety, Security and Environmental Protection

May 24, 2005 Alert 3-05
Washington, DC

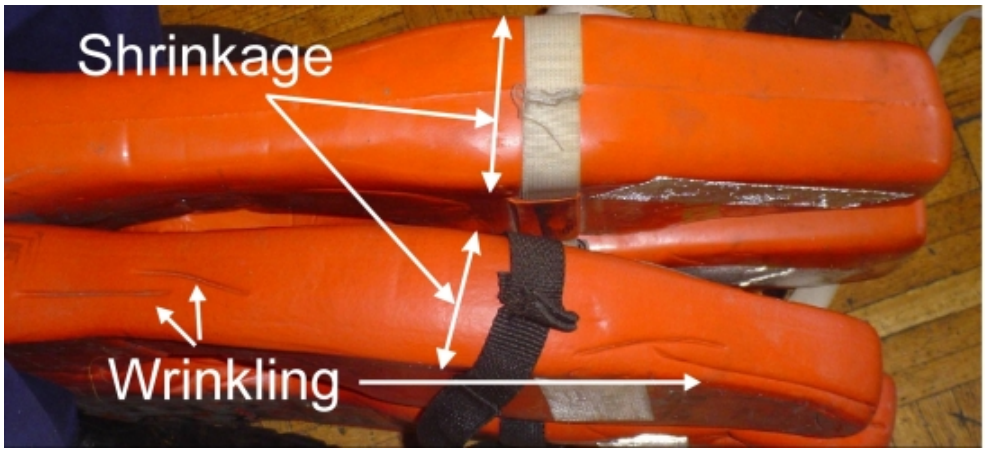
Non-Serviceable and Substandard Type I Unicellular Plastic Foam Life Preservers

Recently during several annual inspections of small passenger vessels, Coast Guard Marine Inspectors discovered a number of problems with Personal Flotation Devices (PFDs) manufactured by Atlantic-Pacific Manufacturing Co. (APCO). APCO formerly produced various types of PFDs including several sizes of unicellular plastic foam life preservers and is currently out of business. PFDs from other manufacturers could have similar problems.

A close inspection revealed –

- varying body strap lengths, sometimes less than 54" from the tip of the snap hook to the tip of the D-ring, resulting in a very tight fitting adult sized PFD on average sized crewmember,
- non-resilient and brittle condition of the PFD flotation foam,
- differences in foam volumes and physical size for the same model of PFD and,
- inaccurate markings, incorrect Q-spec numbers (106.055 vs. 160.055), misspelled words, and incorrect narratives.

Additionally, follow-up buoyancy tests of suspect PFDs performed by the Marine Inspectors resulted in numerous failures. All PFDS that had failed were condemned and each exhibited noticeable shrinkage and compression. Many of these PFDs have been in use since the 1970's and may have reached the end of their service life.



Left image shows an example of a vinyl dipped PFD with compressed or hardened foam. Right image illustrates a fabric covered PFD with brittle foam.

The US Coast Guard **strongly recommends** that owners and operators carefully inspect all of their older Type I unicellular plastic foam PFDs. Potential indications that a Type I unicellular plastic foam PFD may no longer be serviceable are:

1. Compression: The PFD may be compressed from many years of stowage.

2. Loss of resiliency: The PFD is excessively hard, stiff or its foam is brittle. Normally after compressing the PFD to about half its initial thickness, the foam should expand to its original dimension in a short period of time.

3. Shrinkage: A physical reduction in size may be indicated by “wrinkling” of the coating on vinyl-dipped type or by a loose fitting shell on a fabric-covered PFD.

4. Manufacturer: While the potential for problems applies to all older PFDs, those manufactured by Atlantic-Pacific Manufacturing Corporation (APCO) have been specifically noted. Approval numbers for APCO PFDs are:

160.055/54/1	Adult Model 8130
160.055/111/0	Adult Model 8150
160.055/112/1	Child Model 81510
160.055/121/0	Adult Model 81407 LOT # 73
160.055/122/0	Child Model 81410 or 81413

Questions regarding the information presented in this alert may be addressed to Mr. Marty Jackson, Staff Engineer of the U.S. Coast Guard Headquarters Lifesaving & Fire Safety Standards Division at 202.372.1391 or mjackson@comdt.uscg.mil.

This safety alert is provided for informational purposes only and does not relieve any existing domestic or international safety, operational, or material requirement.

U.S. Coast Guard
Safety Alert
Marine Safety, Security and Environmental Protection

February 25, 2005
Washington, DC

Alert 2-05

Loosening of Critical Fasteners

Recently a large deep draft vessel was hoisting aboard its rigid hull inflatable (RHI) rescue boat when it's lifting frame, an inverted u–shaped component, separated from the brackets that attached it to the deck. As a result, the boat fell back into the water and its attending crewmember was ejected. The uninjured crewmember was promptly recovered and damage to the rescue boat was negligible.

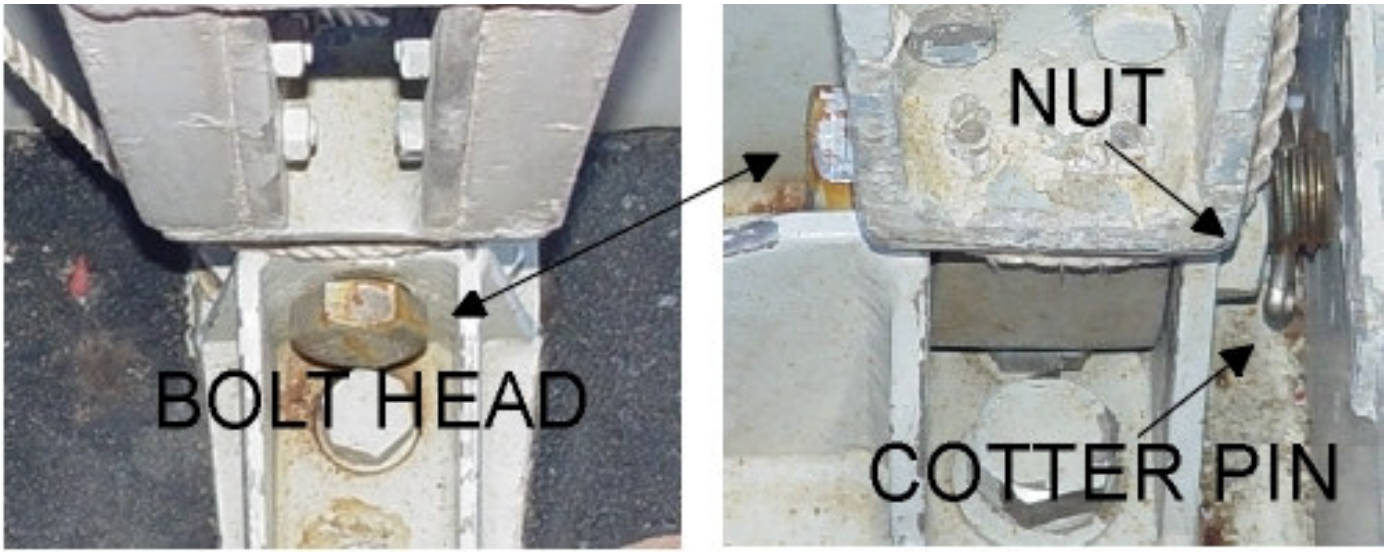
MODEL: Pacific 22 NK III
MANUFACTURER: Osborne Rescue Boat Company (The company is no longer in business.)
LOCATION: Havant, Hampshire, United Kingdom.

Each side of the lifting frame is fastened to the deck by a bolt and nut. It appears that due to vibration the nuts securing the bolts backed off. While the boat was being lifted the bolts also backed out of their respective holes. Although the frame was fitted with non-weight bearing struts (not visible in the photographs) they were unable to handle the load and parted as the boat fell.

An investigation revealed no specific maintenance requirements or manufacturer recommendations for periodic inspection of the lifting frame bolts. A vessel officer reported that limited visual inspection took place monthly but indicated that a "hands-on" equipment check did not occur.

Crewmembers easily remedied the situation to prevent future accidental disassembly of the fastener by drilling a hole through the threaded end of the bolt and installing a cotter or split pin to prevent the fastener from backing off. (See the following photograph.)

(Continued)



To prevent a similar casualty the U.S. Coast Guard strongly recommends that vessel owner operators having vessels equipped with RHIs manufactured by Osborne Rescue Boat Company or other equipment constructed in a like manner -

- ensure that existing inspection and maintenance procedures include all critical components,
- carefully inspect the equipment for loosening of key components, and;
- where needed make authorized modifications.

This casualty was investigated the U.S. Coast Guard Marine Safety Office, Hampton Roads, Virginia.

This safety alert is provided for informational purposes only and does not relieve any existing domestic or international safety, operational, or material requirement.

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U.S. Coast Guard
Safety Alert
Marine Safety, Security and Environmental Protection

February 4, 2005 Alert 1-05
Washington, DC

GPS Receiver Manually-Entered Position Offsets May Cause Safety Hazard when Interconnected to Navigation Devices

It has come to the attention of the U.S. Coast Guard that certain Global Positioning System (GPS) receivers do not provide a proper indication to other connected equipment when manually-entered position offsets are entered into the GPS receiver. Even a small offset could result in danger of collision or other navigation safety hazard when the receiver is interconnected to devices such as an automatic identification system (AIS), Electronic Chart Display and Information System (ECDIS), integrated navigation systems (INS) or track control system (TCS).

The problem is caused by an error in the NMEA 0183/IEC 61162 data interface Datum Reference ("DTM") "local datum" field. Navigation systems interconnected to the GPS receiver use this field to determine whether the position received is referenced to World Geodetic System 84 (WGS84) or something different. AIS equipment, for example, disregards external position information for reasons of safety if the "local datum" field does not indicate WGS84. As a result, equipment that is interfaced to GPS receivers having this problem would act as if the position were referenced to the WGS84 datum, when in fact the position differs from the WGS84 datum by the manual offsets entered by the vessel's crew or captain.

The problem can be identified if own ship position displayed on an AIS changes in proportion to manually-entered offsets entered into the GPS receiver interconnected to the AIS. The GPS is operating correctly in such a situation if the AIS reverts to its integral GPS and disregards the manually-entered offsets sent from the externally-connected GPS.

GPS Receivers identified having this problem:

- Furuno GP80
- Furuno GP90

Mariners having these receivers are advised to either take steps to ensure that the manually-offset feature is never and can never be used, or to disconnect these receivers from the AIS, ECDIS, INS, TCS or other navigation or communications system.

Technical questions relating to this alert may be addressed to Mr. Lee Luft at (860) 441-2685 or LLuft@rdc.uscg.mil.

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

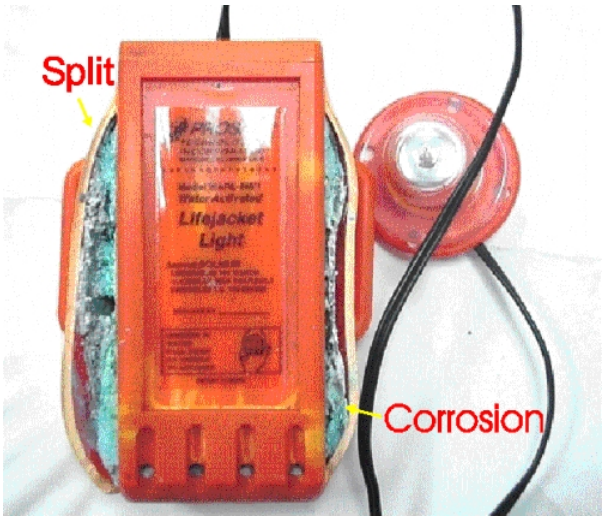
MARINE SAFETY ALERT

Inspections and Compliance Directorate

May 25, 2004 (reformatted 2014) Safety Alert 06-04
Washington, DC

PROSAR TECHNOLOGIES PRODUCTS

Recently during routine inspections several U.S. Coast Guard offices have discovered defective lifejacket lights made by PROSAR Technologies. Some of these lights were found with very noticeable deformations due to battery corrosion while others appeared perfectly normal but did not work when tested. Attempts to contact the manufacturer for repair or replacement of this equipment failed because the company is no longer in business.



The U.S. Coast Guard is **canceling all approvals** for PROSAR Technologies lifesaving equipment because of the lights which have failed during testing and due to the fact that quality control of all their safety products cannot be verified.

Lifejacket and floating water lights no longer approved:

Former USCG Approval Number	PROSAR Product Name
161.010/26/0	MOBL-2 15-Hour Automatic Floating Water Light
161.012/40/0	Model L-8 lifejacket light
161.012/45/0	WARL-8M and WARL-8M/1 steady state lifejacket light
161.012/46/0	WARL-8A lifejacket light
161.012/47/0	CGD-L8 lifejacket light
161.012/48/0	CGDS-L8 lifejacket light
161.110/26/0	MOBL-2 15-Hour Automatic Floating Water Light
161.112/40/0	Model L-8 lifejacket light
161.112/45/0	WARL-8M and WARL-8M/1 steady state lifejacket light
161.112/47/0	Model WARL-8M lifejacket light

The Coast Guard **strongly recommends** that vessel owners and operators using any of the PROSAR Technologies equipment listed above replace those items with other USCG approved safety equipment. For a complete list of U.S. Coast Guard approved products please visit our CGMIX website at http://cgmix.uscg.mil/Default.aspx and conduct a search for the product desired.

If similar problems are identified with other lights not manufactured by PROSAR Technologies, or if you have questions regarding this safety alert, contact LT Todd Howard of the Lifesaving and Fire Safety Standards Division at thoward@comdt.uscg.mil or 202-267-6854.

This safety alert is provided for informational purpose only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Investigations and Casualty Analysis. For questions or concerns please email hqs-pf-fldr-cg-inv@uscg.mil.

United States Coast Guard
Marine Safety Alert
Assistant Commandant for Prevention
Department of Homeland Security

May 5, 2004
Washington, DC

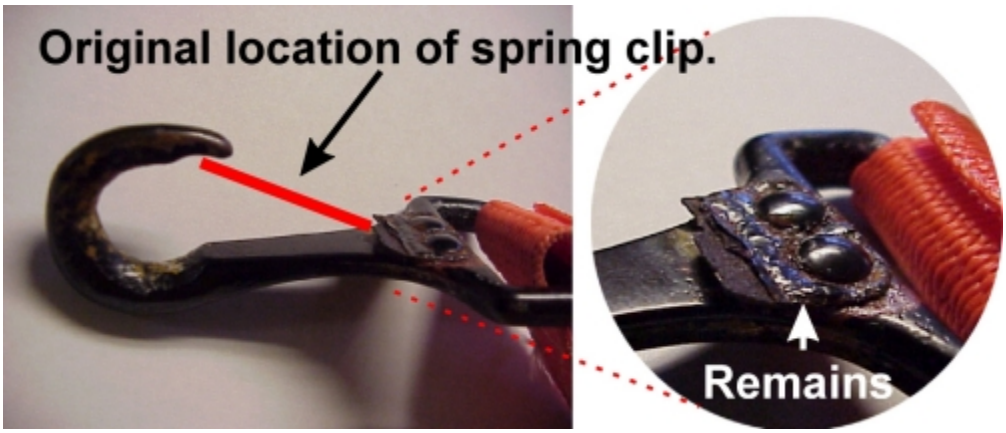
Alert 5-04

Life Jacket Snap Hooks

The U.S. Coast Guard Sector Central Pacific has recently discovered defective snap hooks with corroded spring clips installed on four models of U.S. Coast Guard Approved Lifejackets, Type I personal flotation devices manufactured by Cal-June Inc., a.k.a. Jim Buoy. The snap hook assembly is the key component used to ensure primary closure for these lifejackets. The spring clip is a component of the snap hook assembly and the mechanism that keeps the hook from disengaging once connected to the D-ring of the lifejacket's chest strap.

Improper materials were used during the manufacturing process. Consequently, due to the corrosive nature of marine environments it is only a matter of time until these defective snap hooks deteriorate and fail to operate as designed.

The image below illustrates a defective hook and the remains of a corroded spring clip. This snap hook is reported to have been in service for less than one year.



Cal-June Inc. has acknowledged that the snap hook springs are defective and is committed to replacing all defective snap hooks with new snap hook assemblies at no cost to lifejacket owners. They have determined that the defective snap hooks were only used on lifejackets having lot numbers identified in the table below. A total of 5,371 lifejackets were manufactured with the defective snap hooks and sold between October 1, 2002 and March 15, 2004.

Should you discover this problem or if you have identified your lifejackets by the lot numbers listed, contact Cal-June Inc. at 818.761.3516 or e-mail at email@jim-buoy.com to receive replacement snap hooks. Include in your communication the model number, lot number, quantity of life jackets requiring replacements and a shipping address to send replacements. There is no need to return the lifejacket to the factory. Replacement instructions for the snap hook are available at http://www.uscg.mil/hq/g-m/moa/docs/replacement.pdf.

Lot Numbers having Defective Snap Hooks

1556	1563	1570
1558	1564	1573
1560	1565	1574
1561	1566	1575
1562	1567	1576

Model Nos.	US Coast Guard Approval Nos.
601 Adult	160.055/115/0
603 Child	160.055/116/0

Model Nos.	US Coast Guard Approval Nos.
SO-1 Adult SOLAS	160.155/1/0
SO-2 Child SOLAS	160.155/2/0

The Coast Guard **strongly recommends** that owners and operators of vessels having Type I PFDs with metallic snap hooks inspect the snap hook assemblies carefully.

- The entire snap hook including the clip should be made of non-magnetic materials such as bronze or stainless steel. Defective hooks will have spring clips that may be identified by signs of corrosion. A magnet may also be used to identify improper material. Simply touch the magnet to the surface of the spring clip. If the magnet is attracted to or attaches to the clip, then the snap hook assembly must be replaced.
- Contact Cal-June immediately to obtain replacements for spring clips that are corroded or determined to be magnetic.

If similar problems are identified with other life jackets not manufactured by Cal-June, or if you have questions regarding this safety alert, contact Mr. Daniel McCormick of the Lifesaving and Fire Safety Standards Division at dmccormick@comdt.uscg.mil or 202.267.2713.

General questions regarding this safety alert or its delivery may be addressed to Mr. Ken Olsen of the Office of Investigations and Analysis at kolsen@comdt.uscg.mil or 202.267.1417.

This material is provided for informational purposes only and does not relieve any existing domestic or international safety, operational, or material requirement.

United States Coast Guard
Marine Safety Alert
Assistant Commandant for Prevention
Department of Homeland Security

April 1, 2004 Alert 4-04
Washington, DC

Loss of INMARSAT C Safety Messages

This advisory notifies users of Inmarsat C ship earth stations that urgent marine information, weather warning and navigational warning broadcast messages, distress-related messages, as well as routine messages may be lost if a printer is not connected to and maintained with the Inmarsat C terminal, or if floppy drive maintenance is not regularly performed on the terminal. Additionally, certain non-GMDSS-approved software (e.g. windows-based software) may freeze up if this maintenance is not performed.

All GMDSS versions of Inmarsat C have approved data terminal equipment (DTE) that interfaces with the user. DTE generally refers to the computer and screen, keyboard and printer (or user interface). These terminals are required to use only Inmarsat approved hardware and software. However, users need to understand that proper usage and housekeeping maintenance of the equipment is essential to ensure optimum user availability.

To avoid problems, and to ensure that unnecessary and irrelevant messages are not received, the recommended operating procedures in the manufacturer's equipment operating handbook and the below procedures should be followed:

Message/Archive Log: All ingoing and outgoing messages are recorded on a disk in special log files. Each log file may hold a limited number of messages (limited by disk size or PC storage capacity). When the free disk space falls below a certain size, the terminal will display an error message asking to insert an empty disk. A new message/archive log file will then be generated on the new disk.

Disk Directory: If so configured, ingoing and outgoing messages (OUT.xxx, IN.xxx, EGC.xxx) can be stored on a disk (this is different than the message/archive log), where they can be viewed, erased, printed and copied to different directories. On some models the directory shows the number of files (messages) stored on the disk/directory and this number is limited to 112 files (messages) regardless the free space left. If the disk already holds 112 messages, you will not be able to store any more messages. When the disk is full, use the "erase/delete" command to delete unwanted files and create free space for new messages.

Message Routing: Check the message routing option on the terminal. Incoming mail should be routed to at least one of the output media – disk or printer. Enhanced Group Call (EGC) SafetyNET messages with Urgency and Distress priority will be printed out automatically, if a printer is fitted.

EGC SafetyNET messages with Safety priority can be printed out (user option), otherwise they will be stored on the disk. EGC FleetNET messages can be printed out (user option), otherwise they will be stored on the disk. If the Inmarsat C is connected to a separate PC, a path for saving incoming and outgoing mail and EGC messages should be inserted/specified per the manufacturer's handbook.

EGC SafetyNET setting-up: Ensure that you are logged into the appropriate satellite for the scheduled maritime safety information (MSI) that you wish to receive. Otherwise log in to the satellite that broadcasts the MSI for your required area of operation. Timetables of broadcast and nominated satellites can be found in various national/international publications, such as the International Maritime Organization GMDSS/Circ.8 (see http://www.navcen.uscg.gov/marcomms/gmdss/reference_gmdss.htm) or the Admiralty List of Radio Signals, Vol.5. Ensure that your position (Lat/Long) on the Mobile Earth Station (MES) position screen is valid. Otherwise you will receive and print ALL EGC SafetyNET messages broadcast via the satellite. If automatic position updating is not available, it is essential to manually update the position on a regular basis e.g. every 4 hours. Instructions for doing this are in the manufacturer's handbook.

If properly set-up, your MES will receive automatically all relevant NAVAREA/METAREA and other maritime safety information addressed to the area where you are in. If you require additional information for neighboring area(s), you must program your terminal to receive this information. Be careful if using the "EGC only" option. If this option is selected, the terminal will, effectively, be logged out and you will not be able to receive normal messages (mail) on your terminal. Also, if you choose "EGC only", previous EGC settings may be ignored and the terminal may receive all EGC messages within the ocean region.

If Inmarsat C is used for communication (not as a supervisory control and data acquisition (SCADA) or "black box" terminal), it MUST have a DTE terminal which includes a keyboard, Video Display Unit and printer. Every Inmarsat C terminal, if properly configured, set up and maintained, will receive all relevant messages addressed to it. These messages will be displayed or printed out, stored, or both. Improper settings, including printer settings, not in accordance with the manufacturer's instructions, will degrade the performance.

This advisory was developed in cooperation with Inmarsat Ltd.

Technical questions relating to this alert may be addressed to Mr. Russell Levin at 202.267.1389 or CGComms@comdt.uscg.mil.

This material is provided for informational purpose only and does not relieve any existing domestic or international safety, operational or material requirement.

United States Coast Guard
Marine Safety Alert
Assistant Commandant for Prevention
Department of Homeland Security

March 11, 2004
Washington, DC

Alert 3-04

Lifeboat Gripes

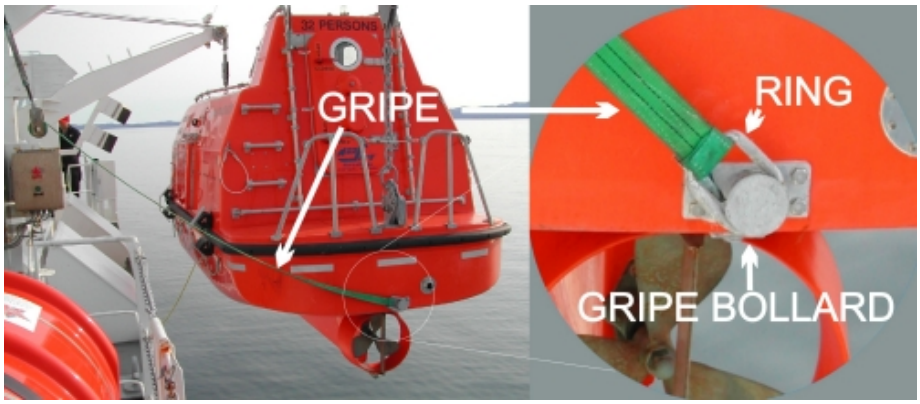
The U.S. Coast Guard has recently been notified by a tank ship operator of a problem discovered during lifeboat launching drills. Although this event did not result in injury or death, there have been a number of lifeboat launching casualties that have. Readers should note that other manufacturers' boats and launching arrangements need to be examined for similar possibilities of entanglement and snag hazards.

It is reported that on several occasions during lowering of a 6.7 meter totally enclosed lifeboat, the ring on the released end of the aft gripe snagged the boat's "gripe bollard." The "gripe bollard" may be known as a "stern post" or "lashing chock."

The purpose of the gripes is to secure the lifeboat against the davits when in the stowed position. The gripes are essentially straps which attach to the ends of the boat and are secured to the davits. One end attaches to a tightening and turnbuckle device, while the other end is attached to a ring that is placed over a slip hook. When the lifeboat is brought to its stowed position, the free end of the gripe is payed over the gripe bollards on both ends of the vessel and the rings are placed over the slip hooks. The slip hooks are then shifted to their closed position.

When the need to abandon ship occurs, the lifeboat is boarded, crewmembers are strapped in their harnesses and its lowering is initiated by a coxswain from inside the boat. A single lever releases the gripes by causing the slip hook to rotate allowing the rings at the terminal ends of the gripes to fall off. Simultaneously the brake is released and the boat begins to lower. As the boat lowers, the gripes travel on the bollard.

Because the ring at the free end of the gripe is larger than the circular outer edge of the bollard, the ring can catch the bollard. Level lowering will continue until the gripe takes the load at which point the end of the vessel which hasn't snagged will continue to lower. The gripe may or may not break when the lifeboat begins to hang. **This condition is unacceptable** and may contribute to the loss of life during emergency evacuations or drills.



The Coast Guard **strongly recommends** that owners and operators of vessels having any type of webbing or wire cable used in a griping/securing system -

- contact the respective lifeboat manufacturers and class society representatives to find out what type of gripe entanglement incidents have been reported, and
- develop appropriate solutions that will minimize potential risks associated with such designs.

The IMO Ship Design and Equipment Sub-Committee has recently developed a draft MSC Circular related to this subject, which should be approved and published soon. Included in the draft circular entitled "Guidance on Safety During Abandon Ship Drills Using Lifeboats" is the recommendation -- "To prevent lashings or gripes from getting entangled, check proper release before swinging out the davit." The Sub-Committee continues to work on long-range solutions.

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

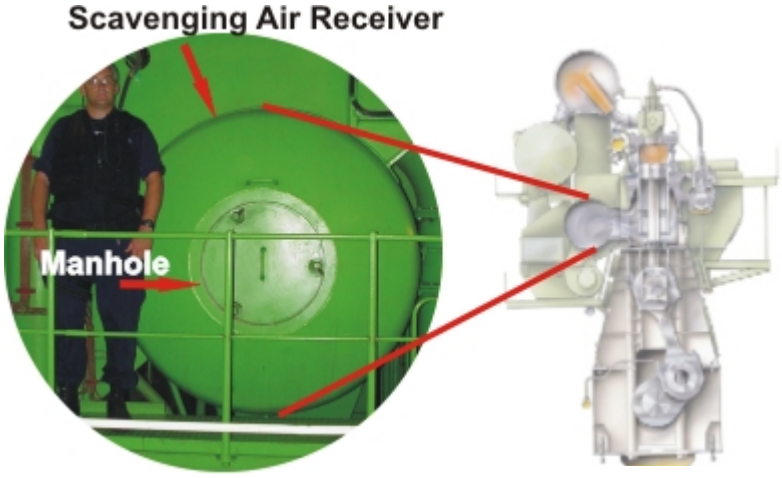
Inspections and Compliance Directorate

February 23, 2004 (reformatted 2014) Safety Alert 02-04
Washington, DC

CONFINED SPACE ENTRY

Last Fall a foreign flagged containership during a coastwise voyage reported upon leaving port that the vessel's second engineer was missing. Despite an extensive search by the vessel's crew and officers, the individual was presumed to have gone ashore and missed the sailing. Upon arrival at the following port the individual was found deceased behind an access door to the main propulsion engine's scavenging air receiver.

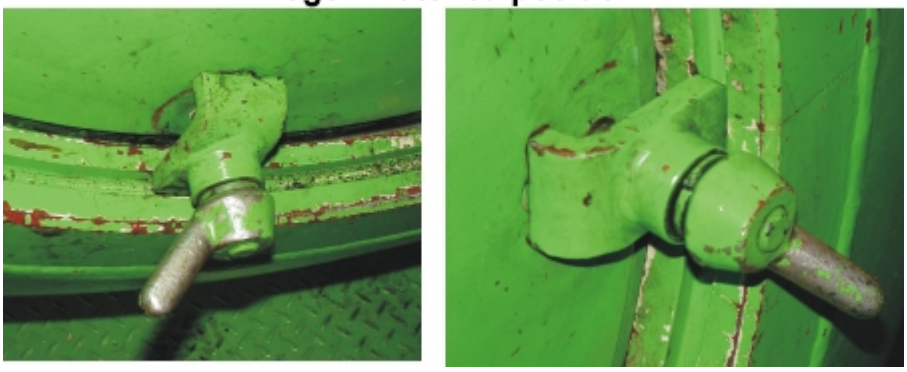
The vessel was powered by a Burmeister & Wain, 9 cylinder two stroke engine that develops over fifty-five thousand horsepower. The engine's scavenging air space can be accessed by two manholes located on both ends of the scavenging air receiver.



These circular manholes are secured by three L-shaped dogs having an outer edge that is tightened against an inner circumferential lip on the edge of the access hole. Tightening is achieved by the use a handled fastener.

Coast Guard investigators determined that the engineer entered the scavenging air receiver alone. Although his reason for entering the receiver is not known, engine maintenance was performed in that space while at the first port and he may have returned to inspect the area for left behind tools and materials or to retrieve something. It appears that after his entry, the easily moved hinged / inward-opening door accidentally closed. Investigators believe that at that time, the upper left dog due to its weight and perhaps the vibration of the door as it closed, caused the dog to move allowing its edge to catch the circumferential lip at the opening. Once caught, even with the loosened fastener the door could no longer be opened from the inside of the receiver.

Dogs in latched position.



The second engineer was an experienced mariner. It was reported that he was trained and familiar with the vessel's confined space entry procedure. In all previous instances, he followed the procedures and safely performed maintenance inside the space. Unfortunately, on this occasion he entered without informing anyone or having an assistant stationed outside. Despite various searches by the crew within the machinery spaces and the main engine while the vessel was preparing to sail, he went unnoticed.

Mariners may on occasion not associate certain work areas as confined spaces and therefore not take the precautionary steps needed. Main engine crankcases, scavenging air spaces, exhaust ducting, boiler drums, furnaces, stack casings, condensers, sewage plant tanks and other systems, equipment, and components may present potential "confined space" type hazards.

A confined space may be defined as any location that, by design, has limited openings for entry or egress and is not intended for continuous human occupancy. This definition applies regardless of whether or not the atmosphere is explosive or toxic. See related US Department of Labor, Occupational Safety & Health Administration information by clicking here.

In this casualty, there was initially sufficient quantities of oxygen for the second engineer to breath, at least until the engine started causing the ambient environmental conditions inside the receiver to change dramatically and cause the fatality.

The Coast Guard **strongly recommends that:**

- All vessels complying with the International Safety Management Code (ISM) have a specific plan for entering confined spaces outlined within their Safety Management System.
- The confined space entry procedures include and identify various types of shipboard spaces such as those previously mentioned that could be encountered and which should be treated as confined spaces.
- Crew safety meetings address the identification of confined spaces and provide instruction on confined space entry procedures.
- Individual crewmembers that work in confined spaces review existing entry procedures and requirements regularly.
- All other vessels and maritime operations falling outside of ISM requirements develop and include in their marine safety programs similar confined space identification and entry procedures.

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United States Coast Guard
Marine Safety Alert
Assistant Commandant for Prevention
Department of Homeland Security

January 27, 2004 Alert 1-04
Washington, DC

POTENTIAL SERIOUS SAFETY HAZARD
NORSAFE CAMSAFE LIFEBOAT RELEASE MECHANISMS

Recently a NORSAFE Miriam 8.5 meter lifeboat equipped with NORSAFE Camsafe release mechanism fell from a semisubmersible mobile offshore drilling unit during initial preparation for sea trials. While the lifeboat was being recovered and raised to its stowage position, the aft hook unexpectedly released at a height of about 70 feet, followed by the disengagement of the forward hook as it took the full load of the boat. The boat tumbled and fell to the water landing upside down, causing one fatality and injuring two other crewmen.

The NORSAFE Camsafe release mechanism became available in 2000. It is not Coast Guard approved, however, it may be fitted on some NORSAFE lifeboats accepted by the Coast Guard based on Norwegian approval.

After the accident the release mechanism control lever was found in the locked position inside the boat, but it is apparent that the hook itself was not fully engaged with the cam inside the release mechanism. Subsequent investigation found that the release mechanism control lever could be placed in the locked position even though the locking cam had not properly engaged the hook. In this condition, the mechanism can appear upon casual examination to be locked and, due to the design and roughness of the hook and cam surfaces, it could bear a significant load. However, the hook can in fact release at any time without warning.

Satisfactory engagement and locking of the release device is dependent upon successful mating between the male and female portions of the cam and hook, respectively, as shown in the following drawing.

When properly engaged, the seam between the edges of the mating components will be clearly visible in the inspection window located on one side of the release mechanism. Observation of the components within this window will enable confirmation of complete cam-to-hook engagement and look as depicted on the right.

It is important to note that this window is impossible to see from inside the lifeboat and the associated lifeboat and release mechanism manuals are not clear on what the viewer should look for to ensure proper engagement.

The casualty investigation is not complete. Additional recommendations are likely to follow.

In the interim the **Coast Guard strongly recommends**:

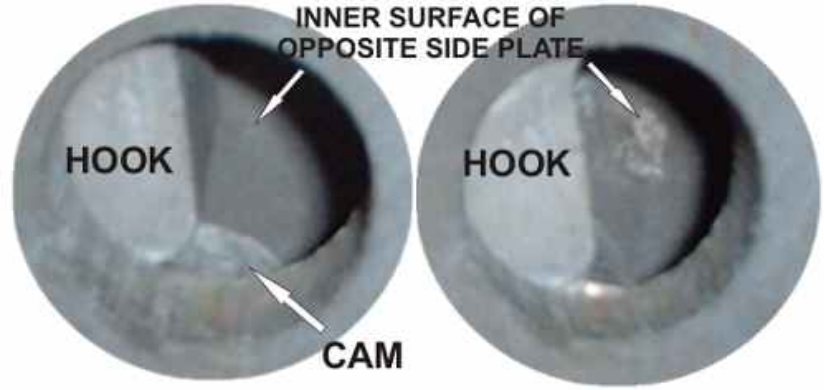
- That only those launching and recovery operations that are absolutely necessary should be carried out with lifeboats having the Camsafe release mechanisms.
- Prior to launching the lifeboat, proper cam engagement must be verified as well as each time the boat is lifted for recovery operations.

Verification Procedure

All ships with NORSAFE lifeboats should be inspected immediately to determine whether they are fitted with Camsafe release mechanisms. Lifeboats fitted with Camsafe release mechanisms should be examined as described below.

1. With the lifeboat in the STOWED position, and MAINTENANCE PENDANTS FITTED, check the inspection window of the hook (which may be outboard) to determine whether the cam and hook are completely engaged.
2. A properly engaged cam and hook will look like this:

3. An improperly engaged hook and cam may look like this:



   IMPORTANT - The inside surface of the opposite side plate (or half) of the release mechanism will be visible, unless a significant portion of the hook is out side the side plates.

4. If the cam and hook are not completely engaged, the load of the boat must be temporarily transferred from the release mechanism and on to the maintenance pendants. Next the release lever at the helmsman's station is reset while the hook is pushed into place by hand to ensure the cam and hook are completely engaged. The load may then be returned to the release mechanism after confirming complete cam engagement through the inspection window.

With the cam and hook completely engaged, the release mechanism is safe to use. However, until the investigation has been completed, and the need for corrective measures for the Camsafe release mechanism and/or installation has been determined, ONLY THOSE LAUNCHING AND RECOVERY OPERATIONS THAT ARE ABSOLUTELY NECESSARY SHOULD BE CARRIED OUT, with lifeboats having the Camsafe release mechanisms.

Questions regarding this information and reports of any Camsafe release mechanisms found not completely engaged may be addressed to LT Todd Howard of the Coast Guard's Life Saving and Fire Safety Division at (202) 267-6854 or THoward@comdt.uscg.mil.

NOTE - On January 29, 2004 additional information relating to this safety alert was distributed as follows:

LIFEBOAT RELEASE MECHANISMS

Based on comments and questions on the recent January 27, 2004 Lifeboat Release Mechanism Safety Alert, the Coast Guard is providing the following clarification regarding access to the Camsafe inspection window, resetting procedures, and the safety of other release mechanism designs.

- The Camsafe (7T) inspection window is impossible to see from inside the Norsafe, Miriam lifeboat and therefore the crewmember must either crawl out the hatch near the release mechanism or use the side hatch to go around the outside of the boat to check the window.
- The associated lifeboat and release mechanism manuals differ and are not clear on what the crewmember should look for to ensure proper engagement. (See detailed description and photographs in the previous message.) The release mechanism manual is less detailed than the lifeboat manual, but neither makes it clear that, to ensure complete engagement of the hook and cam, the crewmember at the release mechanism must push on the hook tail while the helmsman closes the release lever.
- The posted instructions within the lifeboat do not completely cover all the required steps to safely recover the lifeboat.
- The use of the seat harness while raising the lifeboat might have prevented the fatality and is recommended anytime the lifeboat is raised or lowered.

There have been a number of casualties associated with recovery of lifeboats and the testing of their release mechanisms, and it is currently the subject of study and discussions within the International Maritime Organization (IMO).

The Coast Guard emphasizes that while lifeboat release mechanisms are required by IMO regulations to be protected against accidental or premature release when under load, the methods and effectiveness of protection vary with different manufacturers' designs. Accidents can occur with most designs if they are not used properly.

Mariners must never assume that any release mechanism will work like the one on their last ship -- study how each mechanism works and practice with it.

Questions regarding this information may be addressed to LT Todd Howard of the Coast Guard's Life Saving and Fire Safety Division at (202) 267-6854 or THoward@comdt.uscg.mil.

UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

December 12, 2003 (reformatted 2014) Safety Alert 09-03
Washington, DC

LIFE JACKET STORAGE AND ACCESSIBILITY

A few years ago a small passenger vessel approved to carry several hundred passengers experienced an engineroom fire during an otherwise routine voyage. At the time of the casualty, there were only three crewmembers and eight adult passengers onboard. Crewmember efforts to extinguish the fire were unsuccessful. As a result, the fire and smoke spread quickly. Early during the event, the passengers were directed to move to the bow of the vessel. Some time later they were provided several life jackets from a storage locker located at the rear of the main cabin. One adult was given a child size life jacket. Some passengers had difficulty donning the life jackets. Fortunately, another vessel arrived on scene to aid the burning vessel. The passengers and crewmembers were able to disembark the burning vessel by stepping across the bow on to the assisting vessel. Damage to the vessel exceeded one million dollars and associated injuries were minor.

As a result of this casualty, the U.S. Coast Guard recommends that small passenger vessel operators review the distribution of life jackets onboard their vessels to ensure compliance with federal life jacket storage requirements.

Stowage of life jackets

- Life jackets must be stored in convenient places distributed throughout accommodation spaces.
- Each stowage container for life jackets must not be capable of being locked. If practicable, the container must be designed to allow the life jackets to float free.
- Each life jacket kept in a stowage container must be readily available.
- Each life jacket stowed overhead must be supported in a manner that allows quick release for distribution.
- If life jackets are stowed more than 2.13 meters or 7 feet above the deck, a means for quick release must be provided and must be capable of operation by a person standing on the deck.
- Each child size life jacket must be stowed in a location that is appropriately marked and separated from adult life jackets so the child size life jackets are not mistaken for adult life jackets.
- The stowage locations of the personal flotation devices carried in addition to life jackets must be separate from the life jackets, and such as not to be easily confused with that of the life jackets.

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

November 5, 2003 (reformatted 2014) Safety Alert 08-03
Washington, DC

PERSONAL PROTECTIVE EQUIPMENT

Last spring an uninspected towing vessel (UTV) suffered a personnel casualty while engaged in a dredging operation. The casualty resulted in serious injury to a crewmember and an undisclosed monetary settlement of a Jones Act Claim against the marine employer by the injured crewman.

The crewmember was conducting an unscheduled repair to a navigation light fixture attached to the mast located above the upper wheelhouse. For personal fall protection, the crewmember collected a body belt and a positioning lanyard from a storage location on the vessel.

The crewmember climbed the mast, fastened the lanyard around the mast, leaned back supported by the belt and began working. Just minutes into the repair the lanyard parted. The crewmember fell to the deck approximately 40 feet below and sustained a broken leg, arm, ribs and contusions to the head and back.

The Coast Guard's investigation focused on the human element and equipment performance. Although the investigation is not yet complete, important regulatory issues regarding the use, training, and storage of Personal Protective Equipment (PPE) have been discovered. Specifically:

- Effective January 1, 1998, body belts were deemed unacceptable for use as part of a personal fall arrest system by the Occupational Safety and Health Administration (OSHA).
- The manufacturer's instructions for the proper use, care and inspection schedule for the body belt and positioning lanyard were not followed.
- The marine employer did not adhere to the requirements of 29 CFR 1915.159 for personal fall arrest systems.
- The marine employer did not adhere to the requirements of 29 CFR 1915.160 for positioning device systems.
- The marine employer did not adhere to the requirements of 29 CFR 1915.152, general requirements for training and documentation.

Investigators determined that the positioning lanyard was manufactured in November of 1993. The manufacturer's instructions called for semi-annual inspection and removal from service no later than November of 1998.

Further investigation revealed that company policy prohibited the use of a body belt for personal fall protection and required the use of a full body harness; however, the vessel was never provided with a body harness and instead retained two body belts and lanyards. The Coast Guard could not establish that the involved individuals had been trained on their use, storage and limitations.

Persons owning and operating uninspected vessels are required to comply with OSHA regulations with regards to PPE and are subject to fines for noncompliance. Owners/operators are strongly encouraged to:

- Visit the U.S. Department of Labor website to view Directive CPL 2-1.20 - OSHA / U.S. Coast Guard Authority Over Vessels at: http://www.osha.gov .
- Develop, document and provide specialized crew training which includes demonstrations to ensure familiarity with use, storage, and limitations of Personal Protective Equipment.

Questions related to this information may be directed to the U.S. Coast Guard Marine Safety Office Hampton Roads, Investigations Office at (757) 668-5540.

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

November 5, 2003 (reformatted 2014) Safety Alert 07-03
Washington, DC

WINTER FISHING IN ALASKAN WATERS

The following information was initially developed for Alaskan area fishing industry personnel. However, the article presents important issues useful to fishermen and mariners operating in other localities.

Winter weather conditions in the S.E. panhandle region of Alaska are often less than desirable and suffer from the blunt force of Pacific storms from September to April.

Commercial fishermen working on decks of vessels should beware during these inclement weather periods. Commercial fishing is dangerous during any time of the year, but it becomes especially so during the stormy winter weather that effects this area. Working in rough seas coupled with low light conditions requires extra cautions. Commercial fishermen work in one of the most dangerous occupations in America. Each crewman must attend to his own safety and attempt to perform his work in a safe manner using all safeguards available.

The vessel's Skipper is ultimately responsible for its safe operation. Maintaining the vessel's safety equipment and assuring the safety of those onboard must be his or her primary role.

The Commercial Fishing Vessel Safety Act (CFIVSA) of 1988 provides regulations that when complied with significantly improve commercial fishing vessel safety. CFIVSA mandates safety equipment to be on board that could save a crew on a sinking fishing vessel. In Alaska where the water is cold all year, an immersion suit is required for every person on board. Depending on the vessel's route and in some cases its size, this equipment may include survival craft (rafts), Emergency Position Indicating Radio Beacons (EPIRBs), fire fighting equipment, distress signals, and requirements for documented F/Vs that fish beyond boundary line to have crew training on emergency procedures.

Most fishing vessel accidents are the result of human error although many casualties are the result of bad weather and equipment failure. It is the skipper's job to establish emergency plans and assign stations for the crew in the event of an emergency. Statistics indicate poor response by fishing vessel crews contribute a great deal to marine casualties. This lends support to requirements mandating "Drills Training" by F/V crews. Statistics also reflect a high rate of man overboard fatalities. Drills rehearsing man overboard scenarios should be routinely conducted.

Currently there are no requirements that mandate fishermen to wear personal flotation devices (PFDs) on deck. Fishermen have long balked at wearing the old style Type I, II, or III "life jackets" complaining that life jackets are too bulky and just plain uncomfortable. Some have argued that life jackets are unsafe and limit a crewmember's maneuverability on deck.

Several companies have developed PFDs more suitable for persons working on deck on commercial fishing and other vessels. One type is a lightweight jacket or vest with CO2 inflation system, another is a suspender harness that may be worn over deck clothing and attach to rain bibs/pants. There are even traditional raincoats with inflatable buoyancy. Both of these type of PFDs have rip cord inflation systems that may be manually activated once in the water. These new devices are stream lined and do not interfere with your activity and mobility while working on deck. The jacket systems also have back up manual inflation tubes.

Your odds of survival in cold water without a floatation device are poor.

Hypothermia has a way of shutting down the body's ability to tread water.

The Coast Guard continues to offer courtesy dockside exams for commercial fishing vessels. The exams assist commercial fishing vessel owners in discovering what safety equipment is needed without incurring penalties. The exams can save vessel owners/skippers time and money once the season has started. If you operate in Alaskan areas and have questions or wish to schedule a dockside exam please contact Larry Snyder at Marine Safety Office Juneau (907)463-2448, Tim Clepper at Marine Safety Detachment (MSD) Ketchikan (907) 225-4496, or Ken Boyer at MSD Sitka (907)966-5454.

For additional commercial fishing vessel information, including contacts to schedule a courtesy dockside exam in other operating areas, please access the USCG Office of Compliance website at http://www.uscg.mil/hq/g-m/cfvs/index.htm.

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

September 11, 2003 (reformatted 2014) Safety Alert 06-03
Washington, DC

FLOATING ELECTRIC WATERLIGHT SAFETY

Don't get lost in the dark!

Recently the following problems have been reported regarding Floating Electric Waterlights:

- Installation of incorrect replacement batteries which cause the waterlights to sink (batteries too heavy).
- Improperly installed batteries and missing flotation foam.
- Installation into a bracket not designed for that waterlight (will not properly release).
- Lanyard deterioration due to sun damage.
- Not using a Coast Guard Approved Floating Electric Waterlight when required.

46 CFR 161.010-2 requires that floating electric waterlights meet the requirements of UL 1196, which includes float testing, bracket release testing and labeling. Though laboratory re-testing is not typically required after a model has been approved, waterlights must be properly maintained to retain the required characteristics. Clearly a waterlight that sinks is not able to fulfill its purpose. Waterlight owners should pay close attention to manufacturers' instructions, particularly regarding battery replacement.

General Information:

- Floating Electric Waterlight approval information is contained in 46 CFR 161.010
- Testing is carried out by a Coast Guard Accepted Independent Laboratory upon initial certification of a model of waterlight. (approved laboratory list)
- A list of approved waterlights may be found by selecting "FLOATING ELECTRIC WATER LIGHT" in the Approval Series field of the Search page at the USCG Maritime Information Exchange.
- Waterlights that have met the additional SOLAS requirements are listed under "FLOATING ELECTRIC WATER LIGHT (SOLAS)" at the USCG Maritime Information Exchange.

Please address any questions or reports of Floating Electric Waterlight problems to your local Marine Safety Office, or LT Patrick Nelson at: (202)267-0027, psnelson@comdt.uscg.mil

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

July 9, 2003 (reformatted 2014) Safety Alert 05-03
Washington, DC

CARBON MONOXIDE EXPOSURE

The following information is provided by the U.S. Coast Guard's Marine Safety Office (MSO) in Mobile, Alabama.The MSO is currently investigating two deaths aboard a fishing vessel in Bayou la Batre, Alabama. Preliminary findings indicate that the victims were exposed to deadly levels of carbon monoxide (CO). Although the investigation is not complete, important lessons have been learned.

The carbon monoxide came from the exhaust of a portable generator located in the forward part of the engine room. This generator provided power to the vessel's the air conditioning unit and main deck lighting. The generator's exhaust gases vented directly into the engine room. Initial inspection of the vessel revealed:

- improper ventilation in the engine room,
- exhaust leaks from the main engine exhaust manifold,
- structural corrosion of the main deck, and
- open wiring trunks between the engine room and the cabin / wheelhouse.

Inadequate ventilation in the engine room in conjunction with the openings between decks allowed the exhaust from the portable generator to easily enter the cabin area. The victims had ceased fishing, secured the main engine, and retired for the evening. Due to the extreme heat and humidity, the doors to the cabin / wheelhouse were closed and the generator was started to power the portable air conditioning unit. The exhaust from the portable generator quickly filled the engine room with deadly levels of carbon monoxide which in turn seeped through deck openings into the cabin area. Unaware of the dangers, the victims went to sleep.

Carbon monoxide is a colorless and odorless gas produced as a by-product of combustion in diesel and gasoline engines. This toxic gas can accumulate quickly, especially in confined spaces, and has deadly effects on those exposed to it. Proper elimination of exhaust gases is vital in maintaining a safe atmosphere onboard any vessel.The Coast Guard urges mariners to ensure that the exhaust systems of all diesel and gasoline engines are properly vented away from accommodation, working, and recreational areas onboard vessels.

BE VIGILANT TO THIS ISSUE....YOUR LIFE DEPENDS ON IT.

Questions regarding the content of this safety alert may be addressed to Lt. James Eiland at jeiland@miomobile.uscg.mil or 251.441.5763.

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

June 13, 2003 (reformatted 2014) Safety Alert 03-03
Washington, DC

WEARING OF LIFE JACKETS

On Saturday morning, June 14, 2003 at approximately 0715 local time, the Coast Guard Inspected Small Passenger Vessel, the M/V TAKI-TOOO proceeded across the bar at Tillamook Bay, Oregon carrying 17 passengers and two crew. During the bar crossing, a large wave struck the port side of the TAKI-TOOO, capsizing the vessel. Nine people, including the master, are known dead and two are missing. The preliminary findings indicate that **none of the nine dead wore life jackets**. Six of the eight survivors wore/or held onto a life jacket.

The M/V TAKI-TOOO on the beach near Tillamook Bay, Oregon after it capsized on June 14, 2003.

THE WEARING OF LIFE JACKETS WILL SAVE LIVES

In 1996, the Coast Guard specifically included amendments to the Small Passenger Vessel regulations that addressed the wearing of life jackets, aimed at incidents such as this, to reduce deaths when people enter the water. The Coast Guard considered previous capsizings similar to the TAKI-TOOO accident when implementing these regulations.

The previous capsizing incidents include the MERRY JANE, the SAN MATEO and other casualties where vessels capsized, or nearly capsized, during transits through bars or inlets with dangerous swells or breaking waves resulting in people thrown into or entering the water.

This safety alert reiterates the duty of masters of small passenger vessels during potentially hazardous conditions. Title 46, Code of Federal Regulations, Part 185, requires that the master of a vessel shall require passengers to don life jackets when possible hazardous conditions exist including but not limited to:

1. When transiting hazardous bars or inlets;
2. During severe weather;
3. In the event of flooding, fire, or other events that may possibly call for evacuation; and

4. When the vessel is being towed, except a non-self-propelled vessel under normal operating conditions.

Donning life jackets when possibly hazardous conditions exist may make passengers apprehensive, but this precaution can easily be explained as similar to wearing seatbelts during aircraft take-offs and landings and periods of turbulence. The wearing of life jackets is an added safety measure required for passenger protection. The best time to don a life jacket is before it is needed - before people are in the water.

The Coast Guard has entrusted small passenger vessel masters to use their judgment to determine when to require the passengers to wear life jackets. Should Masters have questions concerning “hazardous conditions” and when life jackets should be donned, they should contact their local Coast Guard Officer in Charge, Marine Inspection for additional guidance. If there is doubt as to whether a hazardous condition exists, passengers and crew should don life jackets.

The Offices of Compliance (G-MOC) and Investigations and Analysis (G-MOA) developed this alert. Address any content questions to Mr. Scott Kuhaneck at tkuhaneck@comdt.uscg.mil.

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

March 23, 2003 (reformatted 2014) Safety Alert 02-03
Washington, DC

JOINT MMS / USCG SAFETY ALERT

The U.S. Coast Guard, in conjunction with the Minerals Management Service (MMS), completed a review of accidents on fixed offshore facilities that have resulted in fatalities or serious injuries. It was observed that a number of incidents occurred during operations in which grating or other deck covering had been temporarily removed. Cases involved personnel who were working at temporary deck openings and who became entangled in equipment, tripped, or simply forgot that the opening was there. Other events involved personnel who were not aware of the temporary deck opening and who were passing through the work area when the accident occurred.

Coast Guard regulations require that openings in decks that are not in use be covered, guarded, or otherwise made inaccessible. Further, in cases where there is a hazard of falling ten or more feet when engaged in an activity such as during and after removal of decking, personnel are required to wear secured safety belts. MMS regulations require that lease operations do not result in injury or loss of life and that operators perform work in a safe and workmanlike manner.

In order to reduce fall hazards associated with temporary deck openings, employees shall wear secured safety belts when;

- removing grating or other deck covering to create a temporary deck opening,
- working within the perimeter of the guard rails, or
- near the temporary opening when a portion of a temporary guard rail is removed.

Employees may work outside an opening without safety belts if temporary guard rails are installed that completely encompass, and are in close proximity to, the deck opening. These temporary guard rails should be of a contrasting color to the immediate environment and should be substantially constructed to prevent an accidental fall through the opening by an employee. Routine safety meetings and notices regarding work hazards should continue to highlight the dangers associated with temporary deck openings. The following regulations relate to the aforementioned issues:

- 33 CFR 142.42
- 33 CFR 142.87
- 30 CFR 250.106
- 30 CFR 250.107(a)

For additional information contact Mr. David M. Moore of the MMS at 703.787.1637 or LCDR Eric Walters of the USCG at ewalters@comdt.uscg.mil or 202.267.0499.

VISIT HTTP://WWW.MMS.GOV/SAFETYALERTS/ FOR ADDITIONAL SAFETY ALERTS RELATED TO OCS OIL AND GAS ACTIVITIES.

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

February 4, 2003 (reformatted 2014) Safety Alert 01-03
Washington, DC

FAULTY LIFERAFT SERVICING BY "AMPAK" FACILITIES IN BATON ROUGE, LA AND PANAMA CITY, FL

The Coast Guard has recently received reports of faulty servicing of several inflatable liferafts which were last serviced by facilities operating under the name "AMPAK" in Baton Rouge, LA, and Panama City, FL. In at least one instance, the liferaft gas cylinder was found empty, and the liferaft would not have worked in an emergency. Others were marked as having been subjected to required tests that were not in fact performed.

Although the liferafts were Coast Guard approved and of several different makes, the AMPAK facilities were not Coast Guard approved to service any of them. Since both AMPAK facilities appear to have since ceased operations, we do not know how many other liferafts may be involved.

The Coast Guard strongly recommends that any inflatable liferafts last serviced by the AMPAK facilities in Baton Rouge or Panama City be taken to a Coast Guard approved servicing facility as soon as possible.

This recommendation applies both to Coast Guard approved liferafts on U.S. vessels, and foreign approved liferafts on SOLAS ships; the AMPAK facilities are known to have serviced both.

A servicing facility taking in a Coast Guard approved liferaft that was last serviced by one of the AMPAK facilities should notify the local Coast Guard OCMI, so that (resources permitting) a Coast Guard inspector can witness the servicing. This notification can be included in the facility's routine required notice to the OCMI of servicing.

Servicing facilities should report any serious discrepancies found in these liferafts to Mr. Kurt Heinz of the Lifesaving and Fire Safety Standards Division at (202) 267-1444 or kheinz@comdt.uscg.mil.

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

November 14, 2002 (reformatted 2014) Safety Alert 12-02
Washington, DC

MAINTAINIING READINESS

The following information is a product of the Seventeenth Coast Guard District's Fishing Vessel Safety Program. The lessons learned related to this alert may be applicable to other segments of maritime industry.

The Incident: Three men had been long lining for halibut in the Aleutians and were transiting to Dutch Harbor when their engine died. For the 44 foot vessel, the weather conditions were not ideal - 35 knot winds and 18 foot seas, nor was the location - just a mile from Cape Cheerful, where the rocky cliffs offered no soft protected place to land.

A MAYDAY was broadcast. While waiting for help to arrive, they put out their anchor in an effort to "catch on" to something, but it soon became clear that the deteriorating sea conditions were going to prevent that from happening. The crew then deployed their survival craft, placing 2 of the 3 immersion suits inside along with the visual distress signals, and tied it off to the vessel. Suddenly the line to the survival craft broke and it drifted away, along with their survival equipment. As the fishing vessel continued to drift toward the rocks two of the crew donned wet suits and the third donned his immersion suit. Finally a decision was made to abandon the vessel and risk a beach landing in the 18 foot breaking seas just three minutes before their boat was picked up by a wave and smashed on the rocks.

Several fishing vessels heard the distress calls on the radio and responded to the situation, some even getting underway from piers in Dutch Harbor. Unfortunately, the responding vessels were unable to get in close enough to pass a towline to the stricken vessel. Given the weather conditions there was little the fishing vessels could do except wait. Once it became apparent that the crew of the distressed boat had abandoned ship into the water, the master of a 151-foot crabber that had just arrived on scene decided he couldn't wait any longer. He steamed in to the edge of the breaking surf, locating and rescuing the three survivors out of the breakers and transported them to Dutch Harbor.

Lessons Learned: There are "Ready for Sea" safety factors that are relevant to this incident and several "lessons learned."

- Conduct periodic engine maintenance. Be sure your engine is in top condition before you leave the dock.
- Conduct drills as if there were an actual emergency. Establish procedures for abandoning ship before something happens.
- Don immersion suits early. Although they are cumbersome, you can still work in them and if you end up in the water, your chances of surviving are dramatically increased.
- If immersion suits aren't available, wear whatever is on hand that will insulate you best in cold water. The wetsuits that two of the survivors donned prior to entering the water are a

primary reason why they survived 20 minutes of swimming in the cold waters of the Bering Sea. Even rain gear will reduce the loss of body warmth due to cold water circulation when compared to regular street clothes.

- Launch the survival craft only when you are ready to board the craft. Once it has been inflated it is exposed to the elements. Keep survival equipment close at hand and ready to use if you need it.
- If you do have to go into the water, hold on to each other so that you make a bigger, more visible target for search and rescue units. You'll also have someone to talk to, which keeps morale higher.

Questions regarding this incident may be addressed to Ms. Sue Jorgensen at sjorgensen@cgalaska.uscg.mil.

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MARINE SAFETY ALERT

Inspections and Compliance Directorate

November 15, 2002 (reformatted 2014) Safety Alert 11-02
Washington, DC

TELEVISON ANTENNAE INTERFERENCE WITH GPS

UPDATE 12/16/02 Please note corrected Shakespeare Corporation model numbers below.

It has come to the attention of the U.S. Coast Guard and Federal Communications Commission that certain consumer electronics-grade active VHF/UHF marine television antennas are causing operational degradation in the performance of Global Positioning System (GPS) receivers. This interference may be realized as a display of inaccurate position information or a complete loss of GPS receiver acquisition and tracking ability. The interference is not limited to the GPS equipment onboard the vessel with the installed active marine television antennae. There have been reports of interference occurring on other vessels and installations operating up to 2000 feet away from vessels using such antennas.

In one particular case, the interference caused the position of the vessel as displayed on the electronic chart to move erratically and dramatically often across large expanses of land. As can be expected, various data displays indicated erroneous information such as excessive speeds. In these instances the problem would occasionally correct itself while at other times required resetting the system. To the vessel's crew these annoyances were frustrating and caused concerns that perhaps less obvious inaccuracies were occurring. Ultimately this affected their confidence in the performance of the GPS and Electronic Chart Display and Information System.If you are experiencing recurring outages or degradation of your GPS receiver operation you should perform an on-off test of your TV antenna. If turning off the power to the antenna results in improvement in the GPS receiver performance, the antenna may be the source of interference in the GPS band. In that case, you should contact the manufacturer of the antenna and identify the symptoms.

If the test is not positive and the GPS interference persists, contact the watchstander at the Coast Guard Navigation Information Service at nisws@navcen.uscg.mil / 703.313.5900.Antennae models identified during investigations of GPS interference:

TDP (Tandy Distribution Products) Electronics - MINI STATE Electronic Amplified UHF/VHF TV Antenna - Models 5MS740, 5MS750, 5MS921
Radio Shack Corporation - Long Range Amplified Omni Directional TV Antenna - Model 15-1624
Shakespeare Corporation - SeaWatch - Models 2040/Code Date 02A00, 2050/Code Date 03A00
(Code Dates are found on the antenna power supply.)

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

November 14, 2002 (reformatted 2014) Safety Alert 10-02
Washington, DC

MAN OVERBOARD

The following information is a product of the Seventeenth Coast Guard District's Fishing Vessel Safety Program. The lessons learned related to this alert may be applicable to other segments of maritime industry.

The Incident

A 138 foot catcher/processor vessel had been assisting in the search for two missing crewmembers from another catcher/processor that had caught fire and exploded two days earlier. It became apparent to the master of vessel that the Coast Guard would soon be suspending the search as the weather deteriorated to 30 foot seas and 50 knot winds.

The master decided to seek shelter in Dutch Harbor, Alaska and deliver the two survivors they had previously rescued. In addition to the survivors, they had picked up the survival craft to the damaged vessel and secured it on deck. However, as they headed for Dutch Harbor it broke loose and started shifting around.

Three crewmembers were sent out to secure the craft and prevent it from going overboard. While the men were securing the equipment, a large wave broke across the deck and swept one individual overboard. A second crewman was also caught by the same wave but saved himself by grabbing hold of the vessel's railing.

The missing crewman was wearing black rain gear and no flotation aids. Although a search was performed the master and crew were unable to locate and rescue the missing crewman. The Coast Guard was also notified and launched a helicopter from St. Paul. The aerial search was unsuccessful and hindered by snow squalls and half mile visibility.

Lessons Learned

Although the specific cause of the casualty remains under investigation, there are "Ready for Sea" safety factors that are relevant to this incident and several "lessons learned."

- Wear a personal flotation device (PFD) when working or moving around on deck. Even if you only expect to be on deck for a few minutes, grab a PFD and put it over your rain gear. Or wear an inflatable PFD. If you fall overboard, at least you'll stay afloat.
- Sew or glue retroreflective tape to outerwear-rain gear, work jackets, sweat shirts, etc. Light will reflect off the reflective tape providing a more visible target for rescuers.

- Wear bright colors when you must work on deck. Choose bright, contrasting colors that will easily catch someone's eye. It could mean the difference in someone spotting you or not amongst the waves.
- Wear a light on your PFD or clothing - or carry one that can be pinned on in an emergency. Search efforts at night or in inclement weather are very challenging for searchers. Anything that you can do to attract attention to yourself, such as having a bright strobe light on, will aid rescuers in quickly finding you. And in the Bering Sea, every minute matters!
- Wear a safety harness when the weather is extreme and you must go out on deck. Rig safety lines in exposed areas on deck. It is not uncommon to lose your footing in heavy breaking seas, and the safety line may be the one thing that keeps you from going over the side!
- Properly secure fishing gear and survival equipment.
- Thoroughly analyze the risk when weighing the importance of saving material items. Equipment can be replaced - a life cannot.

Questions regarding this incident may be addressed to Ms. Sue Jorgensen at sjorgensen@cgalaska.uscg.mil.

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

October 1, 2002 (reformatted 2014) Safety Alert 09-02
Washington, DC

TANK EXPLOSION

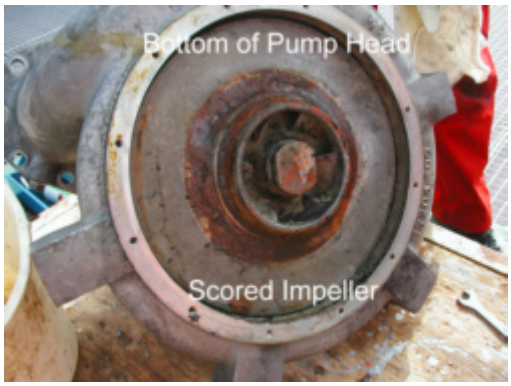
The Marine Safety Unit at Galveston, Texas reports the following casualty. Recently, a 13,700 GT Chemical tanker suffered a major tank explosion and fire at an offshore anchorage in the Gulf of Mexico. The early morning explosion occurred in an empty cargo tank that had previously contained benzene.

Upon nearing completion of tank washing while stripping the tank, the vessel's pumpman opened the tank top cover. Air immediately rushed in and an explosion occurred. The centerline bulkhead between the ignition space and the adjacent cargo tank ruptured. A fire also developed and was extinguished in twenty minutes by the ship's crew using a water/foam mixture.

The pumpman was severely burned and required an evacuation to a medical facility. The cargo hold was severely damaged and resultant structural and machinery repair costs are expected to be significant.

The investigation into this casualty is not complete. This information serves as a reminder and is provided only to assist vessel owners, operators, shore-support staff, crews, and engineering personnel in assessing and understanding risks associated with the operation, maintenance, and repair of their vessels.

A preliminary investigation reveals that the upper bearing of the cargo pump located deep within the tank had failed. The shaft and impeller shifted axially one half an inch causing the impeller to contact and spin against the end plate of the pump casing. The resultant friction caused extreme heat and possibly sparks which ignited the atmosphere in the tank.



Pump and Motor Assembly

The pump is driven by a drive shaft enclosed in an oil filled assembly. The shaft is rotated by an electric motor encased in an explosion/weather-proof housing on the open deck above the tank. The pump end known as the "pump head" is located at the bottom of the cargo tank. Two discharge lines are provided and connected at the pump head, one for normal high capacity discharge operations and another for "stripping" operations.

When the cargo tank is near empty, the pump's stripping line valve is opened and its main discharge closed. The pump is kept running while the remaining product in the discharge line or in the tank is removed via the stripping line.

Explosion

When the tank top cover was opened, enough fresh air was introduced to allow the benzene vapor content to fall below the upper explosive limit and into the explosive range. The vapor in the presence of the operating but severely overheating cargo pump components ignited and caused the explosion.

To reduce the risk of fatalities, injuries, environmental damage and severe economic loss the U.S. Coast Guard **strongly recommends** that owners, operators, superintendents, port engineers, shipboard engineers and crewmembers of vessels having similar equipment and systems:

- Ensure that the proper maintenance and repair as recommended by the manufacturer is accomplished for all pump, motor and drive components.

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UNITED STATES COAST GUARD

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MARINE SAFETY ALERT

Inspections and Compliance Directorate

September 10, 2002 (reformatted 2014) Safety Alert 08-02
Washington, DC

EPIRB ANTENNAE FAILURES

The USCG Marine Safety Office Honolulu has recently reported that a high percentage of antennas equipped to Satellite 406 Cat I EPIRBs, product number 2754, manufactured by ACR Electronics Incorporated have failed during dockside examinations of Commercial Fishing Vessels.

On several occasions the antenna's outer rubber coating was discovered ripped or torn. Closer inspection often revealed extensive internal corrosion. Other antennas showed no perforations on the outer rubber coating but displayed bulges on the antennae near its base. Upon closer inspection when the bulging area was sliced open, total wastage of the antennae interior was revealed.

It is reported that evidence of a corrosion failure may be discovered when the antenna is unscrewed from the EPIRB body assembly. Rusty liquid dripping from the antenna or moisture present inside the threaded section are tell tale signs of failing equipment.

ACR Electronics has acknowledged receipt of the failed antennaes and has initiated a study to determine the cause and scope of the problem. ACR is committed to support its safety products and will replace damaged antennaes at no cost to the owner. Should you encounter similar problems with your vessel's 2754 EPIRB antenna, contact ACR Electronics Customer Service Representatives at (800) 432-0227, ext. 110 to receive a replacement antenna.

The Coast Guard **strongly recommends** that vessel operators carefully inspect their EPIRB antennas - particularly if it is manufactured by ACR Electronics Incorporated.

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UNITED STATES COAST GUARD
U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

August 1, 2002 (reformatted 2014) Safety Alert 07-02
Washington, DC

FUEL AND EXHAUST SYSTEM MAINTENANCE

Recently a 35,000 DWT product tanker suffered a major engine room fire in the Atlantic Ocean. The fire occurred in the early morning hours while the vessel's engineroom and machinery spaces were unattended. Upon onset of the fire, the vessel's smoke detection system activated the vessel's fire alarm. Moments afterwards other engineering alarms sounded throughout vessel. During this period crewmembers reported extensive smoke throughout the cabin passageways on different decks and in the bridge area. The vessel's crew escaped each deck by exiting doors at the rear of the house or via the bridge. Engineering personnel prior to exiting their living quarters managed to activate remote stops at a passageway control station. Their efforts resulted in the shutdown of various fuel and ventilation systems within the engineroom.

Initial reports indicate that due to the excessive smoke within the house and the inability to get to the firefighting locker, a decision was made to extinguish the fire using the vessel's fixed Carbon Dioxide extinguishing system. Prior to release, crewmembers fitted canvas coverings over engineroom intake and exhaust vents while others performed emergency functions such as communications and preparations for launching the vessel's two lifeboats. Eventually, the vessel's Carbon Dioxide system was activated and successfully extinguished the fire. During the course of these events, a salvage team and tug were requested by the vessel's master.

Several other vessels including one from the same operating company stood by to provide assistance. The following day the salvage team and tug arrived on scene. Using the tug they transferred non-essential personnel to the standby vessel and made preparations to tow the disabled tankship to port. There were no injuries or fatalities resulting from this casualty. However, main engine and machinery space equipment repair costs, associated salvage and towing costs associated are expected to be significant.

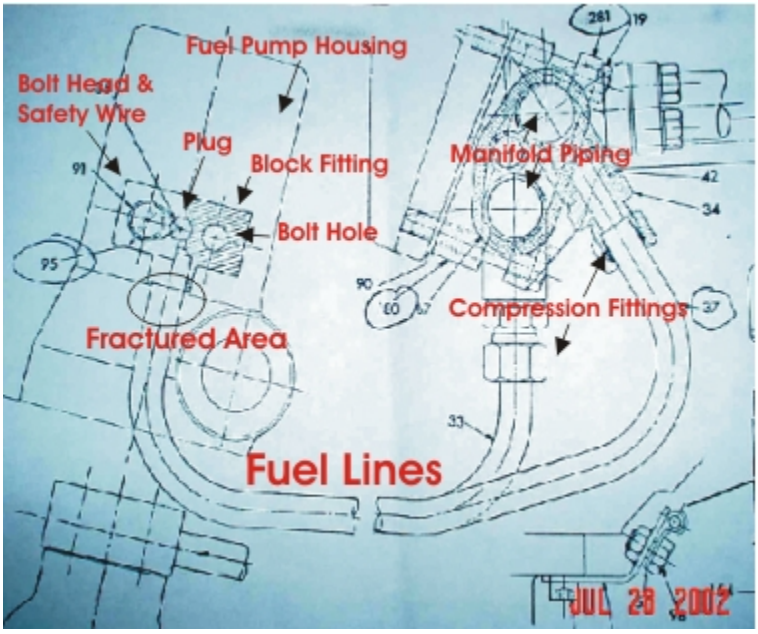
The investigation to this casualty is not complete. This safety information serves as a reminder and is provided only to assist vessel owners, operators, shore-support staff, crews and engineering personnel in assessing and understanding risks associated with the operation, maintenance and repair of their vessels.

Main Engines

The vessel is equipped with two vee-type, 14 cylinder, reversing, 7000 hp, turbocharged, medium speed, four stroke diesel engines capable of using multiple fuels.

Fuel

Each cylinder has its own cam driven fuel pump and injector. Each fuel pump is fitted with its own supply and return piping. The pre-shaped pipes are about 5/8ths of an inch in diameter and 1 1/2 feet long. Intermediate fuel oil when used is supplied under pressure at about 35 psig at a temperature near 215 degrees Fahrenheit. The supply and return piping attach to manifolds on each bank of cylinders using a compression fitting.



On the fuel pump ends, each pipe consists of a rectangular shaped block containing two bolt holes. Both blocks connect directly opposite one another on the fuel pump housing. Two metric bolts are used with spacers for each fitting. The heads of the bolts are drilled to receive safety wiring which when properly used prevents loosening. Also located on each block fitting directly between the two bolt holes is a viewing plug that is removed whenever necessary to time the fuel pump to the engine.

Investigators discovered that the supply line to the starboard engine number three cylinder fuel pump had fractured just below its connection into the rectangular block fitting. Additionally, shipyard personnel discovered the inboard bolt on the supply line fitting loose. Of 112 bolts securing the fuel pump fittings on the vessel's two engines, none were safety wired despite the availability of drilled bolt heads and indications of such wiring in engine schematics and diagrams.

Just under the block fitting of each connection, hose clamped around the tube joint is a rubber boot about four inches long. This boot is designed to deflect oil sprays downward should a break occur in this area. The boot on number three cylinder was destroyed in the fire.

Heat Sources

The exhaust piping begins at each cylinder head with a short section that contains a receptacle for an exhaust gas temperature pyrometer. Generally the piping consists of a series of ninety-degree fittings (ells), straight runs, flanges, gaskets, and expansion bellows as it continues the length of the engine to other ells just prior to entering the turbochargers. At sea speed loads, vessel engineers reported main engine cylinder exhaust temperatures near 850 degrees Fahrenheit.

Along the top center of the engines within the "vee" formed by the cylinder heads, all the exhaust pipes should be encased in an insulated casing or shrouding. Investigators discovered numerous disconnects of the casing, fallen sections and a general absence of insulation throughout the system. None of the short sections that connect to each cylinder head, nor any of the ells near the turbocharger end of the engine were covered with insulation. According to engine manufacturer schematics, every connection at the cylinder heads should have been both wrapped with insulation and covered with shields. None of the 28 connections on both engines were covered.

Investigators discovered numerous areas where intermediate fuel oil had contacted these hot surfaces.

The United States Coast Guard **strongly recommends** that owners, operators, superintendents, port engineers, shipboard engineers and crewmembers of vessels having similar equipment ensure the proper maintenance and repair of fuel and exhaust systems associated with main propulsion and diesel driven auxiliaries onboard their vessels.

To reduce the risk of fatalities, injuries, environmental damage and severe economic loss, diesel engines of all types and their associated systems should be maintained as designed unless appropriate personnel have authorized modifications.

The insulation of potential fuel oil ignition sources and the use of specialized fasteners and other devices to reduce the loosening of critical engine and systems components is essential for long term safe operations.

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UNITED STATES COAST GUARD

U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

July 8, 2002 (reformatted 2014) Safety Alert 06-02
Washington, DC

SMOKE SIGNAL / DANGER OF EXPLOSION

The **Ikaros model Mk II Man-Overboard Smoke Signal** (15-minute) made by **Hansson Pyrotech AB** of Sweden, is approved around the world for use on ring lifebuoys deployed from a ship's bridge. In the United States, it holds Coast Guard approval no. 160.157/5/0.

The smoke signal is secured to the ring lifebuoy by a lanyard, and stowed on the bridge wing "upside down" in a special bracket. U.S. ships are required to have a separate floating electric waterlight secured to the ring lifebuoy, but many other countries accept a version of the Ikaros MkII signal that includes two small lights for this purpose. When the ring lifebuoy is released from the bridge, it pulls the smoke signal from its bracket. As the signal is pulled from the bracket, the igniter mechanism is pulled out from the top of the signal, which starts igntion. This ignition process produces gas and a large volume of orange-colored smoke. The pyrotechnic composition contains its own oxidizer, so once the ignition process is started, it can not be stopped.

Recently, a seaman on a foreign ship in a U.S. port was sent to check the ring lifebuoy and smoke signal on the bridge wing. In the process of doing this, he started to move the signal out of its bracket. Since movement of only 10 mm is necessary to start ignition of the signal, it began to produce gas and smoke. The seaman apparently tried to stop the production of smoke by forcing the igniter mechanism back into the signal. This caused pressure to build up rapidly inside the body of the signal, and it exploded. The seaman died of his injuries.

Hansson has developed and is producing a modified signal that includes a pressure relief mechanism. If pressure builds up inside the container due to the smoke orifice being blocked after the signal is ignited, two plugs will blow out and prevent the signal from exploding. This new signal is designated as the MkIII.

- The Coast Guard recommends replacement of MkII signals with MkIII signals.
- Whenever Hansson Man-Overboard signals (MkII or MkIII) or their mounting arrangements are being serviced, the transport safety pin should be inserted in the signal, which will prevent it from being accidentally ignited. The transport safety pin is used when smoke signals are shipped. The pin is removed when the signal is placed in service. Crew are advised to keep these pins for use during signal maintenance. Consideration should be given to stowing the pin in the vicinity of the signal and the bracket.
- If MkII signals are continued in use, a sign should be placed in a location where it can be readily seen in the vicinity of the stowage location of the signal, warning against trying to move the signal without the transport safety pin inserted. The warning placard should also include directions for handling the marker in the event of an accidental ignition (e.g. "DO NOT RETURN TO BRACKET, EXPLOSION WILL OCCUR"). Such warnings are located on the body of the signal, but they are in a position not normally visible to someone working on

the signal. The sign(s) should be in a language or languages that can be understood by the crew.

This alert was developed by the USCG Lifesaving and Fire Safety Standards Division. Content questions may be addressed to LCDR Brian Gilda - gilda@comdt.uscg.mil.

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MARINE SAFETY ALERT

Inspections and Compliance Directorate

June 25, 2002 (estimate / reformatted 2014) Safety Alert 05-02
Washington, DC

AMPHIBIOUS VEHICLE OPERATIONS

Just a few days ago, in the Ottawa River near Gatineau, Canada an amphibious tour vessel sank. Two adults and two children drowned as a result. The facts and circumstances surrounding the event are currently under investigation by the Transportation Safety Board of Canada and other Canadian agencies.

The United States Coast Guard had no involvement with the inspection or operation of the vehicle. Nonetheless, the accident serves as a reminder to amphibious vehicle owners and operators of the importance of vehicle operational and post-repair inspections.

Several recent casualties can be directly attributed to inadequate inspection activities.

- May 1999 - The MISS MAJESTIC, a DUKW sank in Lake Hamilton, Arkansas and resulted in the loss of thirteen lives. One causal factor of the sinking was the failure of a mechanic to inspect the tightness of hose clamps securing the joints on the main drive shaft seals after performing maintenance.
- September 2000 - The MINNOW, an Alvis Stalwart amphibious vehicle sank in Milwaukee Harbor after passengers were disembarked. A failed bearing on the end of a propulsion impeller shaft contributed to the sinking.
- December 2001 - A "Ride the Ducks of Seattle," DUKW sank in Lake Union when taken under tow after disembarking passengers. The vessel flooded because a mechanic had failed to replace a 4 ½" drain plug which went undiscovered during a pre-operational inspection.

The consequences of poorly performed operational inspection procedures, inadequate maintenance and repair can be serious. All persons involved with these passenger-carrying vehicles must recognize the potential for significant casualties resulting directly from their actions or inactions. There is no room for complacency.

The Coast Guard strongly recommends that owners and operators provide suitable time and resources during daily operations to perform vessel safety inspections. Such inspections should include evaluations of hull integrity, flooding prevention, assessments of emergency equipment and reviews of procedures that may be required during emergencies. Operational and inspection processes should be supported by checklists and documented.

As a result of the MISS MAJESTIC sinking, the Coast Guard published Navigation and Vessel Inspection Circular (NVIC) No. 1-01. This NVIC contains additional technical information and guidance related to amphibious passenger vessel inspection and operation. We encourage

persons involved with amphibious vehicle operations to read this circular. The circular is available at http://www.uscg.mil/hq/g-m/nvic/1_01/n1-01.pdf.

Persons who wish to review the Coast Guard's Marine Board report detailing the circumstances of the MISS MAJESTIC casualty may obtain a copy at http://www.uscg.mil/hq/g-m/moa/chronocas.htm. Upon request, electronic versions of the GMC DUKW-353 technical manuals are available for owners and operators.

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MARINE SAFETY ALERT

Inspections and Compliance Directorate

June 6, 2002 (estimate / reformatted 2014) Safety Alert 04-02
Washington, DC

UNDERWAY AND NO LOOKOUT

It was one of those days in Southeast Alaska when boaters rush to the water to enjoy the splendor of the day. The weather was calm and the visibility was excellent. Two men were anchored off The Sisters Island near Hoonah in their 21-foot vessel, fishing for halibut. One of them looked up and saw a fishing vessel headed directly toward them. Startled, he looked again, and couldn't see signs of anyone in the pilothouse or anywhere on the vessel. He asked his fishing partner and they agreed there was no one in sight. The fishing vessel was still headed directly toward them. The fishing vessel's name could easily be read, so they tried to contact the vessel on the VHF radio to request they alter their course. No one answered the calls and the vessel's course remained steady, despite repeated urgent calls. The boaters decided their best course of action would be to immediately start the motor and swing on the anchor to avoid a collision. They were able to move their stern out of the way just as the fishing vessel motored by. As the fishing vessel passed, the crew on the stern could be seen baiting hooks and waving at them, completely oblivious to the narrow escape they had just had.

There are "Ready for Sea" safety factors that are relevant to this incident and several "lessons learned".

- All vessels must maintain a proper lookout at all times. You may think you can see an approaching vessel because there are three of you working gear on the stern, but that isn't possible. A proper lookout means there is someone looking where the vessel is traveling at all times. This is especially critical when transiting heavy traffic zones or where recreational vessels usually anchor. In addition, a lookout while at anchor can save your vessel, as it did in this situation and possibly your life.
- Maintain a constant radio watch. Keep the radio turned on. Keep the volume high enough to hear any calls. If working on deck, mount a speaker outside where you can hear radio calls. It just might save your life, or that of others.
- Be prepared to warn an approaching vessel of your presence. Don't rely exclusively on radio communications. Always be ready to sound an air horn or flash a light-anything to draw attention.
- The anchored vessel did the right thing by moving out of the path of the fishing vessel. Never "assume" the other vessel will change course. Be prepared to take evasive action to prevent a collision. Remember the obligation of ALL mariners at ALL times is to take appropriate action to avoid a collision.

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MARINE SAFETY ALERT

Inspections and Compliance Directorate

March 28, 2002 (estimate / reformatted 2014) Safety Alert 03-02
Washington, DC

HANDHELD STEERING SWITCHES

Recently, while transiting inbound to the Tampa Bay Ship Channel, a tug and barge combination carrying approximately 227,000 barrels of mixed petroleum products lost steerage and ran hard aground. The incident resulted in approximately $225,000 dollars of property damage primarily associated with the barge's double bottom tanks.

The loss of steerage was caused by the failure of a hand-held non-follow up remote steering switch. These devices are routinely used throughout the towing industry and consist of a two-button switch mounted at the end of a small handle attached to an extendable wire. The wire is connected to the vessel's rudder control circuitry. By depressing either of the two buttons, the towing vessel operator is able to position the rudders and maintain desired steerage. This control is not the only steerage device available to the operator. However when used, it permits movement of the operator within the pilothouse area enabling him or her to ascertain side clearances while transiting narrow channels or during other periods of close maneuvering.

The steering switch is a Robertson Model F ½. The assembly contains four micro switches and consists of two pushbuttons which when depressed come in contact with a two sectioned plate. The depressed button causes one section of the plate to shift against the actuating tabs of two side-by-side micro switches. When this occurs, the steerage circuitry is activated and the rudders shift in the selected direction. As the button is released, the inherent resilience of the contact plate causes it to move off the actuating tabs of the micro switches thereby allowing the circuitry to return to normal.

During the casualty, the vessel operator was unable to change to another means of steering prior to the tug and tow running aground. Afterwards, an inspection of the steering switch revealed that one section of the plate fractured and lodged itself between the other section and the actuating tabs of the micro switches. Although the buttons were released, the broken section of the plate depressed the actuating tabs resulting in the continued hard right rudder positioning. The failure of the plate is most probably related to metal fatigue caused by long-term cyclic operation.

Following the incident, the tug's owners inspected six other

vessels of its fleet. Four vessels were discovered to have similar fractures in various stages on the plate. The manufacturer's equipment manuals were void of any preventative maintenance requirements and the vessel's operators did not have any routine scheduled maintenance plan to inspect or replace worn components of the switch.

Persons owning and operating vessels with Robertson hand-held steering switches and other similarly operating equipment are strongly encouraged to:

- Inspect the internal components of existing controls for signs of fatigue or fracturing.
- Establish a preventative maintenance procedure that complies with the manufacturer's recommendations.
- Ensure that equipment operators are knowledgeable in its usage, capable of inspecting its components and completely understand what immediate actions may be required when failure occurs.
- Consider the use of an electrical disconnect switch located at or near the cable's connection to the vessel's primary steerage circuitry. The use of a disconnect switch will permit isolation of the cable and hand held unit in the event either item fails. Disconnecting would enable operation of another steering method.

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MARINE SAFETY ALERT

Inspections and Compliance Directorate

March 28, 2002 (estimate / reformatted 2014) Safety Alert 02-02
Washington, DC

LOADING OF CANISTER TYPE LIFE RAFTS

Recently a 16-man liferaft canister weighing 375 pounds was accidentally released from its cradle while being loaded in a West Coast port. The canister fell approximately 50-feet onto an engineering service technician who was departing the vessel. The technician suffered massive internal injuries and passed away several hours later at a local hospital. At the time of the incident, two port side life raft canisters were being stowed onto a duplex cradle. The liferafts had just been returned from their routine annual inspection and servicing at a local facility.

The liferaft cradle holds two canisters and utilizes two independent releasing mechanisms. Upon release, the liferaft will fall over the side of the vessel. During loading, there were two accidental releases of the canisters. Although the investigation is not yet complete, the sequence of events may have been as follows:

The first canister was loaded onto the cradle and the second canister was being lowered into position. During this process one of the individuals involved bumped the releasing handle of the canister already in place causing it to fall off the vessel's port side and onto the dock. Shortly afterwards, another person involved examined the releasing mechanism for the second canister. He noticed that the releasing lever was not seated securely. In an effort to prevent the remaining raft from falling, he attempted to move the lever and seat it into its locked notched position. As he moved the lever it sprang open releasing the second canister from its cradle. It plummeted from the vessel and stuck the service technician below.

The Coast Guard strongly recommends that vessel owners and operators utilizing gravity type liferaft release mechanisms or other equipment with similar operating characteristics:

- Review and develop, if necessary, procedures for safe loading of liferafts, particularly when there is danger associated with accidental release.
- Review and develop, if necessary, training based on the safe loading procedures and ensure individuals associated with liferaft loading operations are trained.
- Ensure that each liferaft canister is immediately secured in place using a line, chain or other method when loading or conducting maintenance on the canister, releasing mechanisms or cradles.
- Prohibit use of releasing system hardware as the only means to secure the canister in place during loading, maintenance and repair activities.
- Secure dock and vessel areas within the release zone anytime that maintenance is conducted on lifesaving systems located at the deck edge or when equipment is not stowed as designed. Similar precautions should be taken whenever work of any kind is taking place at the deck edge above other decks or dock areas where people may be present.

- Require only authorized persons to conduct a thorough inspection and safety assessment of the equipment and surrounding areas prior to securing, loading or any other associated maintenance activities.

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MARINE SAFETY ALERT

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January 2, 2002 (estimate / reformatted 2014) Safety Alert 01-02
Washington, DC

Low Pressure CO2 Fire Extinguishing Systems

Last summer a PANAMAX Container Vessel suffered a major engine room fire while loading a cargo of ammunition at a US East Coast port. The fire resulted in the loss of two lives and caused over $15 million dollars worth of damage to the engineroom, main engine casing and propeller shafting. Numerous machinery space platforms, wiring, piping and associated components experienced extensive heat damage. Resulting shipyard repairs kept the vessel out of service for approximately six months.

The vessel's crew performed the initial firefighting response. Shortly afterwards, firefighting personnel associated with the loading facility assisted in and managed the remaining firefighting effort. The fire was declared extinguished in approximately 10 hours during which time nearby waterways were closed.

A USCG one-man formal investigation is currently examining the circumstances surrounding the casualty. The investigation will focus on the origin of the fire, causes of the fatalities, firefighting response, human and equipment performance. Although the investigation is not yet complete, important operational issues regarding the vessel's Ginge-Kerr fixed low pressure CO2 fire extinguishing system have been discovered. This system, model T-AK(X), contains liquid CO2 refrigerated to –17.5 degrees C and is maintained at a pressure of 20.7 kp / cm.

During the fire fighting procedures, the vessel's crewmembers attempted to release CO2 into the engineroom and auxiliary machinery room space by activating controls at one of the system's three master control units and at the instrument panel in the CO2 room. Investigators believe that prior to or during these activation attempts an electrical fault occurred and damaged the control circuitry of the CO2 system. Post casualty inspection indicated that despite the crew's efforts at both releasing stations, CO2 was not released into the engineroom and auxiliary machinery room spaces.

Further investigation revealed that components of the control system depend on electrical power to release the extinguishing agent when following the normal release procedures. An electric solenoid operated-shuttle valve is used in conjunction with an electrical timing circuit. The shuttle valve and timing circuit control the opening of the storage tank main release valve, and thereby ensure that the proper quantity of extinguishing agent is released as determined by the type and size of space served.

No CO2 will be released if electrical power is unavailable to the control circuitry when the system is activated from one of the master control units.

Persons owning and operating vessels with Ginge-Kerr T-AK(X) type systems and other similarly operating fire extinguishing equipment are strongly encouraged to:

- Contact system technical representatives to determine the types of modifications necessary to ensure that normal CO2 release procedures can be accomplished without electrical power.
- Initiate Flag State and Classification Society approval for any modifications and the acceptance of existing systems if necessary.
- Develop and provide specialized crew training to ensure familiarity with routine release procedures and operational requirements unique to the onboard system. Training should also include

emergency release procedures, the manual opening of control valves through the use of pilot valves, and the hand emergency methods of opening system control valves with or without the use of specialized wrenches.

- Post signs indicating specific operational requirements at all control and instrument panel locations. Signs should include normal and emergency release procedures.
- Revise existing Safety Management and Emergency procedures, manuals and other documentation to include normal and emergency release procedures, identified release prerequisites and other information as identified.
- Ensure that the CO2 room is isolated from protected spaces particularly in regard to smoke spread.

The USCG Office of Design and Engineering Standards is preparing a technical document to provide more specific information on the Ginge-Kerr system.

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MARINE SAFETY ALERT

Inspections and Compliance Directorate

2001 (reformatted 2014)
Washington, DC

Safety Alert 02-01

PASSENGER VESSEL SAFETY ALERT

From: G-MOC and ICCL

To: Industry, ICCL members, MSO's, Area and District M staff

CRUISE SHIP SUFFERS STEERING PROBLEM WITH RESULTING INJURIES

Background: The cruise ship NORWEGIAN SKY while approaching the Strait of Juan de Fuca en route to Victoria, B.C. with 2,975 persons, made a sudden unexpected hard turn to port. The vessel was operating on trackpilot when it suddenly received a signal to go to a new heading of 270 instead of the intended track of 090. The NACOS 45-3 Trackpilot navigation system had received an erroneous signal either due to equipment malfunction, or human error, or both. This caused the vessel to take an unexpected and violent turn. The vessel healed to starboard at least 8 degrees while rudder movements fluctuated between amidships and port 45 until the swing of the vessel was controlled using the non-follow up control at the main steering console on the bridge. 78 persons were injured, most of them resulting from the falling of unsecured objects such as arcade games, display cases, and tables. The technician called in to troubleshoot the Trackpilot system was unable to replicate the occurrence.

Lessons Learned: While the casualty investigation for the NORWEGIAN SKY is ongoing, there are several initial "Lessons Learned" that can be shared as follows:

1. Securing for Sea

Owners and operators of passenger vessels should review procedures and processes to ensure that t large items of equipment and other heavy objects are adequately secured to prevent movement or toppling in the event of sudden or violent ship movements. Of particular concern are video games and other large items found in children's recreation spaces, casino equipment, display cases and individual shelving (especially glass) within retail stores, or any other heavy objects that could shift or topple during a sudden or violent movement of the ship.

2. Trackpilot Systems

Trackpilot systems are complex navigation systems designed to be used in confined waters. Training and familiarity with the system are an important component of their safe use. Trackpilot malfunctions, in certain close quarter scenarios or heavily trafficked waterways, could result in a serious marine casualty such as a grounding or collision. Trackpilots have operational limits such as rudder limits that must be established and activated once the trackpilot is engaged. For example, proper rudder angle settings would limit the rudder to small course change increments

even if a large variance in input data is perceived by the sensors. Trackpilot's should be capable of being disengaged instantly in the event of a malfunction or improper operation. Owners and operators of passenger vessels should develop operational guidance and training programs to assure proper and correct trackpilot programming, crew familiarity and should develop and test contingency plans to assure proper crew response in the event of a trackpilot malfunction or failure.

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Safety Alert 01-01

FLAMELESS RATION HEATERS

Situation: Flameless Ration Heaters (FRH) stowed onboard several Military Sealift Command (MSC) vessels have been identified as the source of elevated hydrogen gas (H2) concentrations in containers and cargo hold spaces. In most instances H2 gas elevations are barely detectable but in isolated cases the levels inside closed containers have entered the explosive range. One such container recently broke into flames on the pier after being opened and prepared for unloading.

Background: Subject units are water activated devices for warming military Meals, Ready-to Eat (MRE). FRHs contain magnesium-iron alloy (Mg-Fe) and other powdered ingredients in flat High Density Polyethylene (HDPE) pouch. The exothermic chemical reaction which warms the meals, produces hydrogen gas as a by-product. The addition of water is ordinarily required to cause the reaction to proceed. However, atmospheric moisture may be capable of penetrating the HDPE, causing a low grade reaction and the evolution of H2 gas. The production of a flammable atmosphere is very slow but H2 concentrations may occur inside containers and in upper reaches of holds where pockets of gas may be held.

FRH units are usually packed together with the MREs, inside the individual menu bags. On one ship, all FRHs were removed from the MREs and stowed in refrigerated containers on the open deck. While this method of stowage removed the H2 gas generating problem from the holds, it concentrated the production of gas within the on-deck containers and resulted in concentration levels in the flammable range. MSC and the U.S. Army are investigating impermeable foil over-wrapping methods and the use of non-hydrogen generating heaters but these solutions will not be fully implemented in the immediate future.

Recommendation: Ports loading or receiving shipments of MREs and FRHs should consider requiring the monitoring of containers and holds in which FRH are stowed prior to movement of the containers or any activities which could introduce an ignition source. COTPs should advise ship operators that have FRHs aboard their vessels of this potential condition and, recommend the operators have procedures and equipment necessary to monitor the temperature and atmospheric contents of containers holding FRHs. POC for additional information on FRHs is the Coast Guard Liaison to MSC, CDR Paul Gugg at (202) 685-5726. CDR.Gugg@msc.navy.mil Operational insights may also be obtained from MSO Guam which has been involved in the discovery and abatement of this problem on preposition vessels staged in its AOR.

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Washington, DC

Safety Alert 13-98

GANGPLANKS: A VITAL AREA FOR SAFETY

Some of this information pertains to older equipment.

The Gangplank is the most important working surface on the ship. Everyone who comes aboard—visitors, passengers, repairmen, and longshoremen, as well as the crew—uses it. Since the degree of caution, agility and sobriety of all who come aboard cannot be controlled, it is of the utmost importance that the gangplank be constructed, rigged, and maintained in such a manner as to give all practical protection to the users.

TAUT RAILS - Rope may be used as rails in single lengths leading from the lower end of the gangplank through the stanchions on the turntable to a cleat on the ship. Continual attention (frequently neglected) is necessary to slack or tighten the lines as the ship rises and falls alongside a pier. A slack handrail gives a false sense of security and is almost worse than none at all, while if the rail becomes too taut it will either part or bend the stanchions. One means of assuring properly taut handrails along the plank itself is to secure the upper ends to the head of the gangplank. The lines from the upper stanchion of the plank to the bulwark are then spliced in as tails at the upper stanchion. Because these tails are short and the stanchions on the turntable close together, they are easy to adjust and need not be as tight as the rails along the gangplank.

NONSKID SURFACES - Unless the gangplank or accommodation ladder has a permanent nonskid surface, such as expanded metal or grating construction, nonskid material of some kind should be applied and renewed as necessary. Nonskid paint, sand in wet paint, abrasive materials, either of the type which is troweled on or that which is manufactured on a fabric base may be used. On fixed-tread accommodation ladders the nonskid material should be applied to the tread nosings as well as to the surface of the treads, and on brow-type gangplanks it should be applied on and between the cleats.

DUCK BOARDS - Fixed-tread accommodation ladders should be covered with cleated duck boards, when the angle is low, to avoid the necessity of walking on the edges of the treads. Cleats on the underside or other substantial and easily adjusted means of securing the duck boards in position should be provided.
The boards should be installed or removed as the angle of the ladder changes. This will be facilitated by hinging the boards to one rail of the accommodation ladder. When not in use they may be lashed on edge against the stanchions.

ROLLER GUARD - People sometimes have their feet caught under the wheels or roller at the lower end of the gangplank as the ship surges. This can be prevented by hinging a U-shaped metal strap on the axle so that it will rest on the edge of the pier in front of the wheels or roller and push a person's foot away before it could be caught.

MAINTENANCE AND RIGGING - A number of sectional wooden accommodation ladders have rotted out where the fastenings for the metal end fittings go through them. All wooden gangplanks should be inspected

for rot and cracks each time they are rigged. All fittings, particularly the pins and shackles joining the gangplank and the turntable, should be inspected regularly for rust and wear. Supporting bridles should be long enough so that the spreader will clear a tall person's head at any angle of the plank.

LIFE NET - It is recommended that a life net be rigged by each ship under all gang-planks or accommodation ladders in such a manner as to prevent a person from falling between the ship and dock. The net should be secured to the ship and to the wharf or pier edge so as to cover the area between the ship and dock in way of the means of access:

- For a distance of 6 feet on either side of the means of access if rigged as a thwartship brow plank.
- To extend 6 feet beyond the ends of the means of access if there is an accommodation ladder or gangplank hung parallel with the ship's side.
- To extend 6 feet beyond the turntable or platform in prolongation of the plank or ladder and 6 feet beyond the point of intersection of the plank with the stringpiece of the wharf if rigged at an angle.

GENERAL SAFETY PRECAUTIONS - Double handrails or man ropes should be provided on both outboard and inboard side of gangway; stanchions should be secured in sockets with cotter or toggle pins.
Measures should be taken to prevent overcrowding of gangway; gangway watchmen should be instructed to check regularly on conditions of the gangway due to changes in elevation from tide and draft and to see that all crewmembers and passengers ascend and descend gangway in a safe manner.
Gangways should be adequately lighted at night. A life ring with throw-rope attached should be kept readily available at gangway in case a man falls overboard. Gangways should be free from grease, oil, trash, etc.

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Safety Alert 12-98

ELECTRICAL HAZARDS

How much current does it take to kill?

There are many instances where persons have survived 30,000 and 40,000 volts while many other cases record death due to contact with voltage under 120. There is no simple answer. One person may escape injury from higher voltages due to dry skin or other factors that prevent efficient contact. Another may be killed by a lower voltage when the circuit is easily completed due to contact with damp skin while the victim stands on a wet deck.

High voltage shocks are usually serious, if not fatal, due to destruction of tissues and nerve centers. Fortunately, most people are aware of the danger of high voltage and stay clear of it.

Other than the organic damage connected with electric shock, a serious hazard of minor shock is the involuntary muscular reaction of the victim. They may jump, jerk, stumble or fall with the result that they may sustain even more serious secondary injuries or injure others.

Although we cannot directly answer our self-imposed question, we can advise that the total effect of electric shock is not dependent on voltage alone but on the conditions surrounding it; such as:

1. Type of contact.
2. Skin moisture and effective grounding.
3. Path of the current through the body and vital organs.
4. The involuntary, physical reaction.

Since a common result in electrical accidents is failure of that part of the nervous system which controls breathing, many victims have been saved by prompt application of artificial respiration. Persons engaged in electrical work should be familiar with resuscitation practices.

Maintain all electrical equipment in good repair. Do not use such equipment when suspect—consult someone who knows. Lock out and tag switches controlling circuits on which persons are effecting repairs. Don't take chances on a SHOCKING INJURY.

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MANAGEMENT'S RESPONSIBILITY TO PREVENT FAILURES THAT CAUSE ACCIDENTS

	Immediate Failure or Cause (of accident, or existence of hazard)	Management Failures (most likely underlying reasons for failure)	Management Action Needed (policies or directives provide for)
1.	Poor housekeeping.	Hazards not recognized; facilities inadequate.	Improved safety training, organize or provide adequate space, cleanup campaign.
2.	Improper use of tools, equipment, facilities.	Lack of skill, established procedures, motivation.	Operational and safety training, policy requiring procedures, enforcement.
3.	Lack of approved, correct, complete procedures.	Omissions or errors by designer, supervisor.	Policy requiring checks and tests of procedures to ensure adequacy and clarity.
4.	Improvising or implementing unsafe procedures.	Inadequate supervision, insufficient training.	Improved supervisory training; time for adequate training of employees.
5.	Failure to follow proper prescribed procedures.	Personnel not convinced of need; procedures unclear, lack of enforcement.	Improved safety training; ensure procedures reviewed for adequacy and clarity. Enforcement of use.
6.	Lack of comprehension of job to be performed.	Overly complex instructions; inadequate training.	Supervisory training; time for adequate training of employees.
7.	Lack of awareness or risk assessment.	Inadequate training, warnings in instructions.	Policy to ensure adequate employee safety training.
8.	Lack of guards, safety devices.	Need not recognized, inadequate supply, maintenance, enforcement.	Better training, supply and maintenance systems; emphasis on enforcement.

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SAFETY: WE ARE THE ENEMY

Eighty five percent of all accidents in the marine industry occur through human error rather than by gear and equipment failure, with that understanding, engineering for safety must begin with the human being.

Each worker has his or her own problems and troubles to resolve. Each individual has hopes and ambitions, physical weaknesses as well as strengths. Each is self-motivated with his or her own interests and values. In going through life, he or she has taken and will take many short cuts and chances. He or she has formed and will form many unsafe habits. But, because he or she is unique, a person cannot be programmed like a machine. He or she has to be treated as an individual.

Safety is a very personal problem and here lies the often overlooked key to accident prevention. Injuries occur to a person, and, regardless of the agent producing the injury, mechanical, electrical or chemical, the method by which the agent acted, or the sequence of events, the one common denominator in all injury mathematics is the human being. Because few people are gifted with foresight, they tend to disregard safety regulations which interfere with what they want to do at the moment. They adjust machinery while it is in motion, remove guards which are not welded on, and forget to lock out a switch. Old ways, repeated and reinforced because they get the job done, tend to become habits which result in accidents. It's axiomatic that people do not like to adopt new ways because new procedures demand a change in behavior, learning new skills or altering attitudes. It's human and completely normal to resist change when we are getting along to our own satisfaction.

To limit injuries, managers must resist the temptation to write a manual or set of safety regulations, issue a statement supporting the safety effort, and then await the day that injuries stop. Accident prevention will never be that simple. If it were, injuries would have disappeared from the industrial scene years ago, for many companies, both large and small, have approached the problem from the viewpoint that established rules and regulations will prevent accidents.

Unfortunately, one fundamental fact is overlooked. The very person with the most to lose by injuries—the worker—is the weak link in the safety chain. Safety involves a constant battle against the negative forces of human indifference, carelessness and negligence. Just one weak link in the chain of operations can, and often does, result in disaster. A poorly rigged or defective gangway can result in injuries to ship personnel or longshoremen. Yet some masters and deck officers are offended when a potential hazard is pointed out to them, even though safety is their responsibility.

All persons sometimes do things of which they are not proud. And we don't necessarily appreciate the person who reminds us. Because we do not want our inadequacies to become known, we always have our mental fists up to protect our pride, to save face. Self esteem is indeed one of a person's basic needs. People will quarrel, even fight, to protect it. This is an important point for the supervisor whose workers feel their boss is too inquisitive about "their business." They might fear that their inefficiencies or shortcomings will be exposed, and they may he embarrassed. Defensive people tend to reject new ideas, new methods. They don't want anyone prying into their operations, or offering advice. In dealing with people who have a defensive manner, a good supervisor must balance the scales, praising good performance and safety practice, while offering logical suggestions for improvement.

Even though this is the era of the expert, people throughout our society tend to resist the specialist who comes around to see what's going on—and to offer unsolicited advice. That's human too, but the trained safety engineer can make a contribution, in improving work practices or in design of safety equipment. As the safety of the physical work environment has improved because of stringent design standards, safer equipment, inspections and material testing programs, and use of guards, interlocks, and other devices, the safety record also has improved. Today, human error is involved in the vast majority of injury-causing accidents. But, controlling the human being is obviously a much more complex undertaking than redesign of equipment or work spaces.

Meeting the challenge of safety requires knowledge, fortitude and persistence on the part of all shipboard supervisors in conducting on-the-job training and follow-up procedures. It demands understanding people and the forces which motivate them. Supervisors, from the master down, must enforce accident prevention practices. However, it should be recognized that no safety program can ever hope to reach perfection. Human beings never will be infallible. Human minds will wander; frustrations have an adverse impact on behavior; uncomfortable working conditions affect physical coordination, and fatigue takes its toll and hampers both judgment and physical responses. Lack of knowledge, familiarity with equipment and professional skills also tend to be reflected by rising accident rates.

All of these truths should be recognized by workers and supervisors alike. It may well be true, as a managerial doctrine indicates, that everyone's work is no one's work. But, safety is an obvious exception to the rule. Safety is everyone's job. An ounce of prevention is indeed worth pounds of cure. Alertness and awareness of danger are important to the safe worker, for a person who knows an accident can occur will try to avoid it. If a crew member expects that a hatch might become unlatched and fall on him or her, they will make certain that the toggle pin secures the latch before they descend the ladder into the compartment below, for survival is most paramount among human needs.

A well organized and effectively implemented safety program is a means to an end, a system for insuring human survival and limiting painful injury. It is a means of promoting efficiency and economy, for safe workers are more productive, as is well maintained equipment and machinery. In short, everyone has a stake in safety—and all share the responsibility.

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Safety Alert 08-98

SAFETY IS PROPER COMMUNICATION

Parents, the media, government, military, industry, schools, ad infinitum, regularly alert us to hazards associated with unsafe practices. Why then do so many preventable accidents occur every year? Is it just human nature to take unnecessary risks or is it a breakdown in proper communication? Most likely it is a combination of both.

There are those few unfortunate people who refuse to listen to anything concerning their well-being. They recklessly race through life until one day the odds catch up with them and they end up as accident statistics. Too often innocent bystanders are killed or injured because of these people.

Thankfully, the great majority are safety conscious and make every attempt to follow the rules and regulations of the activity in which they are participating. However, it is sad to note that, on occasion, even these people lower their safety guard and take chances which lead to mishaps. How can they be persuaded not to throw caution to the wind? Through proper communication, that's how.

There are few people who never have the opportunity to counsel others on the safest and most efficient way to accomplish a given task. It's during these direct confrontations with individuals and groups that the right words must be used. This ensures that those listening understand what was said and if called upon to perform a related task, they would know how to do it.

When dealing with safety, everyone must be a leader. Whatever your position, if you see someone doing something in a unsafe manner, call it to his or her attention. Actually, you're doing them a favor.

When you show someone how to do a job, make sure they fully understand you. By the same token, when you're learning a certain task, make sure you fully understand the procedures.

This is what it's all about. This is proper communication. This is safety.

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IMPROVISING

One dictionary defines the word improvise to mean "unprepared"; "to make, provide, or do with the tools and materials at hand, usually to fill an unforeseen and immediate need."

Many old sea stories have been written on how seamen had improvised in emergency situations, such as a ship coming into port with a "jury mast" or "jury rudder."

When proper precautions are not followed, a lot of things can happen, oftentimes they are bad. For example, the deck force was chipping and painting booms and had rigged two pieces of 1" dunnage from a winch to the top of deck cargo, a span of about 6 feet. They used this improvised walkway most of the morning until knocking off for lunch when one of the boards gave way and a seaman fell to the deck several feet. He was seriously injured.

Occasionally, seamen are observed improvising on the job by using a screwdriver in place of a chisel, a wrench instead of a hammer, a box or drum to stand on in lieu of a well secured ladder. This kind of improvising is dangerous and unnecessary. When we start to work with insufficient or incorrect tools or equipment, we are only asking for trouble. Instead of leaving the job to get the proper tools, we attempt to pick up what is handy, and the next thing we have is an accident. Incorrect and unsafe tools are equally bad.

When we recognize the dangers of improvising, then we must put this knowledge to work. Don't take chances, whether it be yourself or a shipmate, as soon as we see improvising on the job it is our duty to stop it at once.

Any form of improvising has no place on a ship where safety and good seamanship are the watchword. Planning ahead will prevent improvising, and remember that no job is so urgent that it can't be performed safely.

Let's leave the "jury rig" for emergencies where a seaman's know-how to improvise may be necessary.

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UNSAFE HABITS ENDANGER ALL WHO WORK AT SEA

What causes the most common shipboard accidents? Unsafe working habits, for the most part. Try this checklist of possible causes for accidents, and see if any of them apply to you:

- Do you fail to look where you walk on ship, when on and off duty?
- Do you let your hands and feet remain in unsafe positions, such as door frames or open hatch covers?
- Do you lift or handle material with poor body posture, certain in time to pull a muscle or produce hernia?
- When you climb or descend steps on board, do you forget to use hand rails? Do you also neglect to watch to see if grease or water has made the treads slippery?
- Do you use defective tools? Wrenches with spread jams, pliers with worn teeth, chipped ends of screwdrivers and loose hammerheads are examples of defective tools that can fail in use and cause injuries to the user.
- Do you use your hands instead of hand tools, thinking to save time and effort?
- Do you use the wrong tool for a job, hoping to make do or cut corners?
- Do you work too fast for safety, under the prevailing conditions of the job?
- Do you forget to wear personal protective equipment—gloves, goggles, helmet, supporters, safety shoes?
- Do you wear improper clothes while working, such as scarves, ties or long sleeves that could become caught in machinery? If you have to work in a hot, constricted area, do you wear too little to protect you in case of an accident?

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DECKPLATE AND MANHOLE COVER SAFETY

1. If you remove a deck plate or manhole cover anywhere on board ship, warn other personnel that it is off.

2. If you must leave the "opening" try to place a guard over it; perhaps a saw-horse or a step-stool, etc. If possible, rope off the area.

3. Never leave such covers off longer than necessary.

4. When lifting these covers take a good stance, a firm grip, and lift with your leg muscles, rather than with your back. Once it is off, be careful where you set it aside; don't make it a tripping hazard for another person.

5. If a deck plate or manhole cover is out of position at time of changing watch, be sure to warn the new watch.

6. If a deck plate or manhole cover is removed, it is often for some job being done under the deck, in a hold or tank. In this situation a standby man must be positioned at the opening at all times; he will warn others of the danger and keep in contact with the man under deck for his safety.

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Safety Alert 04-98

LIMIT SWITCHES AND GRAVITY LIFE BOAT DAVITS

The Coast Guard publication, "Manual for Lifeboatmen, Able Seamen, and Qualified Members of Engine Department" (CG-175) gave the following instructions for hoisting lifeboats under gravity davits:

> On boats handled with gravity davits, the boat is hoisted to a position where the tricing lines can be made fast. It is next lowered to the embarkation deck where men in boat can get out, It is then hove up to the stowed position, using the hand cranks for the last 12 inches or more. In the stowed position. men can get back in to pass gripes, replace ridgepole and cover, etc.

In a recent report of a casualty concerning the failure of a wire-rope fall on a gravity lifeboat davit, the investigating officer stated that, "While securing port lifeboat, utilizing a gravity davit system, the limit switches apparently failed to operate properly, causing the boat to be hauled up too far, resulting in the after lifeboat fall parting."

In reality, the Coast Guard recommended hoisting procedure quoted above is telling shipboard personnel not to trust the limit switches installed on the trackways of gravity davits. The crew is strongly advised to hand crank the boat for the last 12 inches of its travel up the trackways and thus avoid any mishaps that could occur from inoperative limit switches. During long periods at sea, these switches frequently become water-soaked and short circuited; their failure to operate can occur when least expected. The replacement of the lifeboat which followed the above casualty could have been avoided if the boat had been hand cranked for its last 12 inches of movement up the trackways.

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REDUCING THE RISK OF FALLS OVERBOARD

The test of any gambler is the size of the stake he'll place on what he feels is a sure thing. Perhaps the average sailor is overly optimistic about the odds because he too often sees those who've gambled and won while the Coast Guard statistics reflect those who've gambled and lost. The large percentage of persons lost each year from falling overboard from all classes of vessels and boats indicates that sailors and boatmen fare poorly as gamblers, especially those who are working without a personal flotation device where the risk of falling overboard is high. Daily, summaries and news accounts tell of rescue efforts performed by the Coast Guard, local police, and rescue squads which attempted to locate persons who were lost overboard from tugs, barges, pleasure craft, docks, and large commercial vessels.

- What are your chances of survival if you fall overboard without being seen?
- If you are injured or dazed before you fall overboard?
- If the water temperature is extreme?
- If the time for the rescue forces to reach you takes over a few minutes?

No matter how high the risks under normal conditions, they are surely a great deal higher when you are not wearing a personal flotation device! We all, at times, have to take a chance on a long shot, but we don't have to bet our lives on it.

A case in point involved the death of a seaman who fell overboard at sea while rigging an accommodation ladder. As the ship was preparing to enter port, the seaman was detailed to release the toggle pins which held the ladder in a horizontal position along-side the vessel. As he bent over, the ship rolled, tossing him into the water. Investigation revealed that the man was not wearing a life preserver or work vest, nor did he have any safety lines rigged.

Subsequent to the tragedy, the steamship company implemented a number of operating procedures designed to prevent a similar casualty. Seamen are now required to wear a life preserver or work vest and to use a safety harness and line when working over the side. In addition, a deck officer supervises the operation and the master is authorized to slow the ship and seek a lee while this evolution takes place.Professional mariners realize that rigging an accommodation ladder is one of the more hazardous procedures a seaman must routinely face. Virtually all ships are required to rig an accommodation ladder every time they approach a port. To reduce the hazards for your shipmates, answer the following questions:

- Are seamen on my ships required to periodically work over the side?
- Are procedures followed which insure their safety when they do work over the side?
- Are Coast Guard approved work vests stowed in an accessible location?
- Are the work vests in good condition?
- Are my masters reluctant to slow down when men are working over the side?

If these questions are answered in the interests of personnel safety, the lessons from this casualty will be put to good use. This safety alert is provided for informational purpose only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Investigations and Casualty Analysis. For questions or concerns please email hqs-pf-fldr-cg-inv@uscg.mil

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WIRE ROPE FAILURES

The starboard lifeboat aboard a large freighter was lowered to facilitate securing the gear and stores in the boat. At approximately 9:40 a.m., stowage was completed and the boat was ready to be raised up to its inboard stowed position. Three men remained in the boat as it was being hoisted. The floating blocks connected with the davit arms and the davit arms started up the trackways. The davit arms were 23 inches up the trackways when, without warning, the forward lifeboat fall parted with a loud snap. All the men in the lifeboat were immediately dropped into the water as the boat swung, still being held by the after fall, against the after davit arm. Cause of the accident: Localized corrosion which caused thinning of the wires and thus the weakening of the strands. Failure occurred when the corrosion-reduced cross section was overloaded. Injuries: One man received a cervical sprain; another incurred a serious back injury, which caused considerable lost work time; the last man had his right ear drum perforated.

This accident description is, unfortunately, not unique. It is typical of a kind of accident which is repeated so often that even the casual observer cannot help but wonder at the mariner's failure to heed the safety measures which have been established to prevent such recurring accidents.

Standards and procedures for the care and maintenance of wire rope falls on lifeboat davits have long been established by both manufacturers and the U.S. Coast Guard; yet each year serious injuries to personnel and property damage are caused by the failure of wire rope falls.

These failures have two things in common: their cause, and the opportunity for their prevention. In nearly every case, such accidents are caused by the separation of the falls at a point which was inaccessible for proper maintenance and inspection when the davit was in a full upright stowed position. In nearly every case, the accidents could have been prevented had the davits been partially lowered to allow access to the entire length of the fall line for proper lubrication and inspection.

Wire rope, like complicated machinery, consists of many small interwoven parts that need lubrication. There isn't a mariner worth his salt who wouldn't acknowledge the necessity to keep an engine or winch well lubricated to achieve best results. Yet many of these knowledgeable seafarers ignore the necessity of keeping wire rope clean and well lubricated.

Most davits on shipboard are located so that they are continuously exposed to both sea spray and stack gas. The combination of salt water and engine or boiler exhausts creates acids which pit and corrode wire rope, providing bending and fatigue points which eventually lead to failures. This weakening can be prevented by proper cleaning and lubrication. In most cases investigated, this wear at stress points around sheaves and through blocks would have been visible to the naked eye had the entire length of the fall been examined by the lowering of the davit. Lowering the davit would have allowed access to those areas of the fall line which are normally inaccessible.

Another factor contributing to failures: the failure of crew members to periodically change the position of wire rope, allowing a piece of wire rope to remain in a single use position for the expected life of the rope. A ship is subjected to considerable vibration while at sea. This vibration is arrested sharply at the tangent point in the sheaves creating areas of potential fatigue failure. If the position of the rope is periodically changed by moving the boom position, the wear and fatigue is distributed more evenly along the length of the rope, thus reducing the chance of failure.

Modern wire rope is made to the highest engineering standards. By the use of many tests and controls during its manufacture, it is almost impossible for serious flaws to exist in the finished product. An accident in service with wire rope almost always results from poor maintenance procedures. To keep wire ropes in safe operating condition, clean and lubricate them frequently, and regularly change their stowage position.

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REPOWERING WOOD BOATS

Upon return from a routine day fishing trip in November 1997, the operator of an inspected wood small passenger vessel reported that his vessel was taking on water at the dock after discharging passengers. Preliminary investigation indicated that the starboard chine log and outside starter plank of his 41 ft cross-planked Chesapeake deadrise hull were fractured.

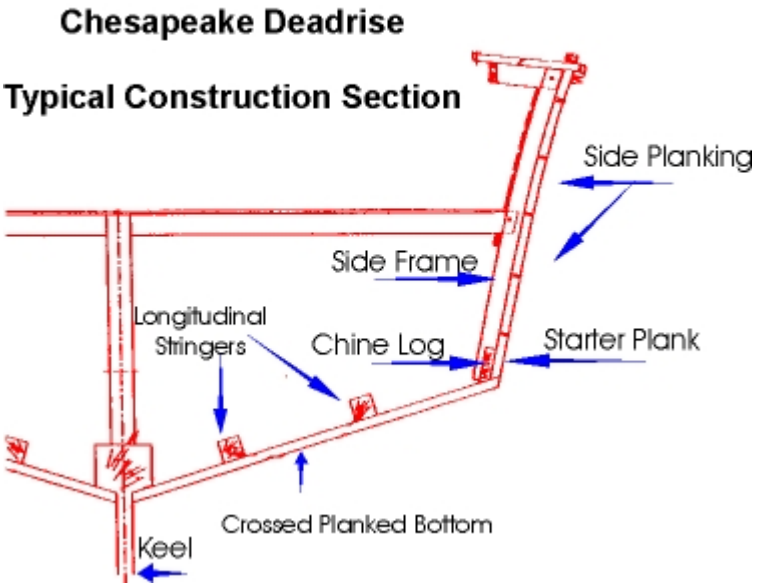
Further investigation revealed that the 28 year old vessel had replaced the existing and original twin gasoline engine installation with twin diesels at the beginning of the season. Although the diesels were of comparable horsepower, they were double the physical size and weight of the original installation, with an available peak torque of over twice the existing gasoline engines. For details, see Traveling Inspection Report dated January 15, 1998 and Safety Alert message dated February 5, 1998.

Diesel technology has advanced rapidly in the last ten years, with engines becoming increasingly efficient for their size. These mechanical advances coupled with already proven planing hull designs may result in combinations which drive existing wood hulls harder than envisioned by their original builders and or designers. Some already optimized designs may not have sufficient structure to survive such a re-powering without additional hull strengthening or careful engine choice.

CROSS-PLANKED HULLS

Cross-planked hulls are a type of vee-bottom construction unique to the Chesapeake Bay, although Coast Guard records indicate that these vessels are operating throughout the country . Their construction is unique in that the side planking above the chine is run fore and aft with vertical side frames at regular intervals, while the bottom planks run perpendicular to the keel instead of fore and aft. The side frames end at the chine, and do not extend to the keel. The bottom structure consists of longitudinal stringers or "sister keels" run fore and aft at regular intervals between the keel and the chine. Transverse strength is via strategically placed "strongback" timbers which run chine to chine and are generally tied into the side planking with sizeable brackets. (See NVIC 7-95 and BOATBUILDING by Howard Chappelle)

When these hulls are loaded, the chine log and starter plank will give the first indication of structural failure. The construction detail in these areas may also contribute to the hull failure mechanism, whether brought on by natural aging or exacerbated by increased propulsion power installation. The direction of the wood grain selected in order to bend the chine and starter planks in place runs fore and aft. The side frame heels are generally bolted from the outside in, through the starter plank and face of the chine log to pick up the frame. These frame bolts are generally in a line horizontally with grain of the chine log.



Initial indications include shallow checking of the face of the chine log on the inside or on the face of the starter plank on the outside "bolt to bolt."

As the hull continues to work, these checks can widen into fractures, with the worst case of both the chine log and the outside starter plank fracturing all the all the way through.

The chine log and starter planks on all cross-planked hulls should be inspected closely at each scheduled drydock inspection for early signs of deterioration. When inspected underway, leakage on the top of the chine log may indicate a split starter plank, versus leakage on the bottom of the chine which is an indication of the condition of the bottom planking to chine connection. These areas should be looked at closely before re-powering schemes are approved, so that any preliminary indications can be fully documented and watched over time

OTHER WOOD HULLS

Although the above casualty and discussion are specific to Chesapeake cross-planked deadrise hulls, the issue of re-powering and its impact on existing wood hulls is applicable regardless of design. This is particularly important when the conversion is made from gasoline to diesel engines. Because of the inherently higher torque available from diesels, they will allow an operator to drive the hull harder in sea conditions where a gasoline engine would load down and automatically force a reduction in speed. Lightly built planing hulls that will continue to perform with increased power should be targeted and examined closely both before and after modification for any adverse effects to the hull structure. Field offices should not hesitate to involve the Hull Division of the Marine Safety Center (202-366-6481) when existing inspected wood hulls are re-powered, or require owners to prove structural sufficiency by utilizing the services of a qualified naval architect. The G-MO-1 Traveling Inspection staff (202-267-1080) is available to assist in the field evaluation of existing installations showing signs of structural deficiency.

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MARINE SAFETY ALERT

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Safety Alert 08-97

FISHING VESSEL LIFESAVING EQUIPMENT

The purpose of this safety alert is to remind the commercial fishing industry of the requirements and importance of lifesaving equipment for commercial fishing industry vessels.

Recently an uninspected 69-foot commercial fishing vessel, with three people on board, caught on fire and sank at approximately 40 miles offshore in the Gulf of Mexico. The vessel's crew tried to fight the fire with portable extinguishers, but were unsuccessful. They then requested assistance from nearby vessels, donned life preservers, and tried to deploy the vessel's emergency positioning indicating radio beacon (EPIRB) and inflatable liferaft. According to the only survivor, the EPIRB may have sunk after it was thrown overboard and the liferaft could not be inflated. The cause of these equipment failures is under investigation by Coast Guard Marine Safety Unit Galveston.

Based on the vessel's length, its operation, location and the number of people on board, Title 46 Code of Federal Regulations (CFR) 25 26-5 requires similar vessels to have on board a float-free, automatically activated Category 1 406 MHz EPIRB stowed in a manner so that it will float-free if the vessel sinks. The vessel is also required to have an inflatable liferaft by 46 CFR Table 28.120(a). Additionally, Coast Guard requirements for scheduled maintenance and inspection of lifesaving equipment are listed in 46 CFR Table 98.140.

The Coast Guard is striving to improve the commercial fishing industry's safety record. Coast Guard fishing vessel safety examiners are available to assist operators in understanding Commercial Fishing Industry Vessel regulations Operators are highly encouraged to contact their local Marine Safety Offices to schedule a voluntary dockside examination for their vessels. Voluntary dockside examinations are no fault and non-adversarial. They can help prevent occurrence of similar tragic incidents.

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Safety Alert 07-97

PROPELLER CLEARING PORT HAZARD

In August of 1996 a commercial fishing vessel capsized while tending hagfish traps 13 nautical miles south east of Cape Elizabeth, Maine. The crew of the vessel first noticed the flooding condition while recovering fishing gear, but were unable to determine the source of the flooding. Within 10 minutes the vessel capsized. The vessel's crew safely abandoned the vessel into a liferaft. Following the salvage of the vessel, Coast Guard investigators determined that the source of the flooding was a loose hatch cover on a propeller clearing port. This port allows the crew easy access to the propeller so that they can clear away fouled line, fishing gear and debris that may have become fouled in the vessel's propeller.

In this incident, the vessel's master had removed the propeller clearing port hatch cover the day prior to the accident to clear away a line that had become entangled in the propeller. Coast Guard investigators believe that this hatch was not properly secured after it had been opened and loosened at some point the following day which then led to the flooding of the vessel.The Coast Guard feels that propeller clearing ports such as this are becoming more popular on vessels constructed to tend stationary fishing gear because the gear itself is more likely to become fouled on the propeller. Stationary fishing gear includes lobster and hagfish traps, as well as gillnets and longlines. Because the hatches of the propeller clearing ports are typically placed above a vessel's waterline, some vessel operators may underestimate the risk of flooding associated with them. The assumption is that sea water will not rise up through a hatch opening that is above the waterline. However, because propeller clearing ports are placed in the same plane as the propeller in order that a fouled propeller can be easily cleared, any side wash from the vessel's propeller when it is operating will act like a pump and place considerable water pressure on the clearing port hatch opening. The pumping action of the propeller can, in some cases, be in excess of 1000 gallons per minute.

The photograph demonstrates what happens when a vessel is maneuvered with a loose clearing port hatch cover. This vessel's clearing port hatch is located on the weather deck, which makes flooding easy to detect. The Coast Guard advises fishermen considering the installation of propeller clearing ports to design the ports with the access hatch on the vessel's main deck. On vessels with access hatches placed below the main deck, a means should be provided to prevent the hatch from unintentional opening, such as the use of double nuts, safety wiring of the bolts, etc... The Coast Guard strongly advises against the installation of clearing ports below the main deck in hulls that are not fitted with watertight bulkheads.

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Safety Alert 06-97

DRY ENGINE EXHAUST HAZARDS

Owners and operators of vessels using dry type engine exhaust systems are strongly cautioned to check the condition of all exhaust pipes, insulation, and adjacent stack areas to ensure that no combustible materials come in contact with, or in close proximity to, hot exhaust pipes.

Recently, a fire erupted aboard a small wooden passenger vessel (approximately 70 ft in length) carrying over 60 people. Although the official investigation is not complete, information available at this time indicates that sparks or radiant heat from the exhaust pipes apparently ignited a fire in the vicinity of the smokestack. Crew members initially responded to the fire by discharging two carbon dioxide extinguishers at the flames. Once this action proved to be futile, the crew members deployed the vessel's fire hose. In the few short minutes it took to retrieve and lead out the hose, the flames fully engulfed the vessel; elapsed time was approximately five minutes.

The smokestack in this case consisted of several exhaust pipes passing vertically through a stack facade. The facade was fabricated of wood and sheathed in non fire retardant fiberglass. Constructed as it was, the flames quickly spread throughout the stack area and progressed unimpeded through the wooden vessel.

Operators of similarly constructed vessels should be aware of the potential fire hazards that dry exhaust systems present and should take all the necessary precautions to ensure these systems are properly constructed, insulated, and that the insulation is itself in good condition and properly secured. The stack and any void spaces located in and around it should also be free and clear of all combustibles. Luckily, the vessel was operating in protected waters and in close proximity to shore at the time of the casualty. Had this incident occurred under different circumstances it could have easily led to more serious injury or even death.

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Safety Alert 05-97

SUCESSFUL RESCUES IN NEW ENGLAND

Use of EPIRBS and other survival equipment saves lives on fishing vessels. (Text taken from a letter issued January 22, 1997 from the office of Rear Admiral J. L. Linnon, Commander, First Coast Guard District.) Courtesy of the First U.S. Coast Guard District Office, Boston, MA

Disaster at sea among New England's fishing fleet was averted on three occasions last week due to the presence on board each vessel of simple yet vital distress warning and lifesaving equipment. The fishing vessels COMMODORE and TRINITY, hundreds of miles apart and many miles offshore, began sinking within hours of one another in the midst of a severe winter storm. Later the same day the fishing vessel LADY MARIA's pilothouse was destroyed in heavy seas. In each case the Coast Guard received initial notification of distress by an electronic signal emitted from the vessel's 406 MHz Emergency Position Indicating Radio Beacon (406 EPIRB). The 406 EPIRB is much more capable than earlier class A or B EPIRBs (121.5 or 243 Mhz). Its signal provides us accurate position information and, if properly registered, will also provide information on the vessel's owner/operator, homeport, home and business phones, etc. Through the 406 EPIRB signal we were able to immediately ascertain that there was in fact a distress at sea and promptly dispatched rescue units to the appropriate locations. Equally important was that each vessel had ample cold water survival suits available for the crew, and inflatable liferafts (crews from the COMMODORE and TRINITY abandoned ship). All crewmen--six in COMMODORE, five onboard TRINITY, and four in LADY MAMA--were promptly rescued and returned safely to their loved ones.

I should also caution mariners to guard against inadvertent activation of EPIRBs - false alarms that needlessly divert Coast Guard rescue units from real distress cases --by ensuring EPIRBs are securely mounted and properly maintained in accordance with the manufacturer's recommendations.

I urge all who venture to sea, particularly in New England waters, to heed the lessons of COMMODORE, TRINITY, and LADY MARIA. Registered 406 EPIRBs, survival suits, inflatable liferafts, and other lifesaving gear should be onboard, and crews should know where this gear is located and how to use it. These vital pieces of equipment can easily be the difference between a successful rescue and disaster.

Signed by J.L LINNON
Rear Admiral, U.S. Coast Guard
Commander, First Coast Guard District

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Safety Alert 04-97

WOOD AND FIBERGLASS VESSELS MAKE POOR RADAR TARGETS

SMALL VESSEL OPERATORS SHOULD NOT ASSUME LARGE VESSELS SEE THEM ON RADAR OR KNOW WHAT THEY'RE ACTUALLY DOING. Courtesy of MSO Portland, ME.

A 60' eastern rigged trawler and a 770' tanker collided in the Gulf of Maine on Sept. 5, 1996. The trawler suffered heavy damage in the incident. Only the evasive action taken by the tanker at the last minute prevented the loss of the trawler and possibly the lives of the two fishermen involved.

While many factors contributed to this collision, Coast Guard investigators believe that commercial fishermen, and boaters of all kinds, routinely overestimate the collision avoidance capabilities of large ships and do not typically recognize what they need to do in order to reduce the risk of being involved in a collision.

For example, in this case most of the 1000+ ships that transit the Gulf of Maine each year use advanced collision avoidance computer systems that work off a ships' radar. These computers can automatically or manually acquire and track radar targets and will sound an alarm to the vessel's deck officer if a risk of collision is calculated. These systems are usually very accurate and are relied upon by mariners worldwide to avoid collisions at sea. Unfortunately, in order for these systems to operate effectively they must detect and track radar targets continuously over a period of time. Vessels that provide intermittent or weak (poor) radar signatures significantly hinder the ability of the computers to accurately calculate true vessel movement. This can lead to cases where a vessel being tracked by the computer may be maneuvering quite differently than what is indicated by the computer data. Because of this small vessel operators should be wary that, just because a ship is large and apparently sophisticated, there is no guarantee that the ship is fully aware of your vessel's movements.

All small boat operators can significantly reduce the risk of having a collision with other vessels by ensuring that their boat provides the biggest, strongest, most visible and continuous radar signatures possible. By improving the ability of your vessel to be seen by radar you significantly increase the possibility that your vessel will be clearly detected at the earliest opportunity and that any collision avoidance computer that tracks your vessel will do so as accurately as possible.

Operators of small vessels are cautioned that wood and fiberglass are particularly poor radar reflecting materials and produce weak radar signatures. Vessels constructed of wood and fiberglass can significantly improve their radar signatures and increase their radar visibility by ensuring that flat metal surfaces or radar reflectors are provided on the vessel's exterior. These devices should be located in unobstructed areas on the vessel as high above the waterline as possible. Radar reflectors are also required equipment for all Federally documented commercial fishing vessels of non-metallic construction that operate outside of the Boundary Line or with more than 16 individuals onboard as per 46 Code Of Federal Regulations 28.235 unless the vessel is fitted with gear that provides a radar signature from a distance of 6 miles.

Equally important in reducing the risk of collision is making sure your vessel complies with all navigational lighting requirements. Besides being required by law, navigation lights (often referred to as running lights) provide the best opportunity for mariners to visually verify or quickly assess the heading of another vessel. If

the navigation lights are incorrect or, in some cases, missing altogether, a deck officer cannot easily determine another vessel's heading. Further, the use of bright deck lights should be avoided. While the bright lights themselves might improve the chance of being seen by other vessels, the lights can obscure a vessel's' navigation lights. Deck watch officers might also confuse the use of bright lights with active stationary fishing and will assume a vessel is not moving. Both of these situations can cause confusion and increase the possibility of collision.

Small vessel operators are also reminded that one of the best collision avoidance tools at sea is the proper and early use of a VHF radio. Remember, when calling another vessel via VHF, clearly give a description of your vessel, its position and movement as well as an approximate description, position and movement of the vessel you're calling. Additionally, when hailing a ship it is best to avoid the use of local terminology and slang because a ship's officer might be unfamiliar with a specific locality. The use of vague terms such as "calling the ship on my bow" should also be avoided because the range of a VHF radio can be significant and calls such as these can cause a great deal of confusion, especially if there are other vessels in the vicinity.

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Safety Alert 03-97

ALDEN EPIRB ALERT

BATTERY SHORTAGE FOR SATFIND 406 EPIRB MODEL M3 AND M4

Due to a recent electrical fire, the supplier of the only approved D-cell Lithium Manganese Dioxide battery cells for the SATFIND-406$_{TM}$ EPIRB Model s M3 and M4 is temporarily unable to provide EPIRB battery packs.

The US Coast Guard is allowing owners of Satfind - 406 $_{TM}$ Model M3 or M4 EPIRB's that have battery expiration dates through June of 1997 limited extensions for battery replacement provided that the following conditions are met.

1. The EPIRB must pass a self test, and
2. The owner or captain has onboard, a written (and dated) confirmation that an order for a replacement battery pack has been placed with a dealer.

If the EPIRB does not pass self test, it **must** be returned to Alden Electronics Inc. for repair or be replaced with a unit that complies with government regulations. If the Captain is unable to produce written proof (on board) of an order for a replacement battery pack, all normal Coast Guard procedures will apply.

For further information or assistance call Alden at 1-800-225-4767.

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Safety Alert 02-97

EARLY MODEL ACR/RLB-23, 406 Mhz EPIRB PROBLEMS

THIS ALERT APPLIES ONLY TO EARLY MODEL ACR/RLB-23, 406 Mhz EPIRB'S THAT HAVE MAGNETICALLY ACTIVATED INTERNAL SWITCHES AND **NOT** THE NEWER MODEL ACR/RLB-23, 406 MHZ EPRIBS THAT HAVE SALT WATER ACTIVATION SWITCHES. Information provided courtesy of Marine Safety Office San Francisco.

During the investigations into the events surrounding the recent loss of a commercial fishing vessel, it was found that the vessel's EPIRB successfully deployed from its hydrostatic release mount. However, the EPIRB's signal was never received by the search and rescue coordinators. It is believed that the EPIRB failed to transmit a signal because the power switch on the EPIRB itself was not turned to the required "ON-TEST" position when it was mounted in its storage bracket.

The investigation found that the vessel's ACR/RLB-23 EPIRB had been serviced by the manufacturer and returned to the owner just two weeks prior to the casualty. These EPIRB units are serviced and tested by the manufacturer and then shipped from the servicing facility ready to be used. Typically, the manufacturer places a narrow yellow tape labeled "DO NOT REMOVE BEFORE USE" over the "ON-TEST/OFF" switch found on the top of the EPIRB. This tape **MUST** be removed before the EPIRB is placed in its mounting bracket.

OWNERS AND USERS OF EARLY MODEL ACR/RLB-23, 406 Mhz EPIRBs THAT HAVE MAGNETICALLY ACTIVATED INTERNAL SWITCHES ARE CAUTIONED THAT FAILURE TO MOUNT THE EPIRB CORRECTLY CAN LEAD TO A FALSE SENSE OF PROTECTION. THE EPIRB WILL NOT TRANSMIT A DISTRESS SIGNAL IF IT IS AUTOMATICALLY RELEASED UNLESS IT IS MOUNTED IN THE FOLLOWING MANNER:

1. Remove the narrow yellow tape labeled "DO NOT REMOVE BEFORE USE" which is affixed by the manufacturer over the "ON-TEST/OFF" switch on top of the EPIRB.

2. Place the "ARM/ON" switch found on the bottom of the mounting bracket to the "ARM" position. Make sure that the slide switch actually snaps into its indent.

3. Place the EPIRB into the foam cradles on the bottom of the mounting bracket. This should be accomplished by aligning the strobe light and switch guard at the top of the unit with the proper cut-outs on the foam locator of the mount.

4. Place the "ON-TEST/OFF" switch, located on the top of the EPIRB, to the "ON-TEST" position. Although this will actually turn the EPIRB on, the unit will turn off once it is correctly mounted it the bracket. The EPIRB's switch must **always** be in the "ON-TEST" position while it is in the mounting bracket.

5. Move the "ARM/ON" switch on the mounting bracket to the "ON" position ensuring that it snaps into the indent. The EPIRB will now activate and the strobe light will begin flashing within 15 seconds.

6. Return the "ARM/ON" switch on the mounting bracket to the "ARM" position. This should be done within 45 seconds of placing the "ARM/ON" switch on the mounting bracket to the "ON" position in step #5.

   PLEASE NOTE THAT THE FAILURE TO MOVE THE "ARM/ON" SWITCH ON THE MOUNTING BRACKET TO THE "ARM" POSITION WITHIN 45 SECONDS WILL CAUSE THE EPIRB TO TRANSMIT A DISTRESS SIGNAL.

7. Secure mounting cover over EPIRB.

8. The strobe will now shut off but the EPIRB will be armed and ready for automatic release in the event of a casualty.

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Safety Alert 01-97

THERMAL PROTECTiVE AIDS

In January of 1995 a 106 foot commercial crabbing vessel abruptly capsized and sank in the Bering Sea with the loss of all six crew members on board. Weather conditions at the time were severe; an air temperature of 28 degrees F, 40 knot winds, a wind chill of -15 degrees F, sea water temperature of 38 degrees F, and 15-foot swells with 3-foot seas. Approximately three and a half hours after a cryptic MAYDAY call was heard responding fishing vessel in the area recovered two liferafts. One of the rafts contained two unconscious, lightly dressed crewmen from the stricken vessel. All attempts to revive the victims were futile and the autopsies revealed they died of hypothermia.

The crew on the rescue vessel noted that the liferafts contained loose emergency equipment including the Thermal Protective Aids (TPAs). TPAs are plastic garments that a person can wear in order to slow the effects of hypothermia. Although not as effective as an immersion suit, it's compact enough to store in a life raft and, if donned, can cut down a person's heat loss from radiation, convection and, to a lesser degree, conduction. All SOLAS liferafts are required to carry enough TPAs for 10% of the rated crew capacity of the liferaft, or at least two per liferaft. Federally documented commercial fishing industry vessels that operate in cold waters beyond 20 miles from the shore or all Federally documented commercial fishing industry vessels that operate beyond 50 miles from shore are required to carry SOLAS life rafts.

The investigation into this accident revealed that the TPA's in the recovered liferafts had not been removed from their packages. More significantly, most of the fishermen interviewed in this case were unaware of what a TPA was and the fact that they're standard equipment on all SOLAS liferafts!

It was miraculous that the fishermen in this case made it into a life raft at all due to the apparent hasty vessel abandonment as was indicated by the brief MAYDAY call and the victim's light clothing. Had they been able to don the TPAs they may have had a better chance to survive.

MARINERS PLEASE NOTE:

1. TPAs can save lives and are standard equipment found in SOLAS liferafts which are required for documented commercial fishing vessels operating more than 50 miles offshore or more that 20 miles offshore in cold water.
2. Coast Guard-approved training in survival and vessel abandonment now emphasizes the existence, benefits, and use of all emergency equipment, especially TPAs, stowed in liferafts.
3. Examining a liferaft's survival kit is a great training opportunity for all. Familiarization with these contents in the light of day, under good conditions, will make survival kit contents easier to find and use in emergencies; especially in severe conditions!

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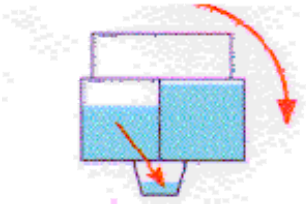
Safety Alert 09-96

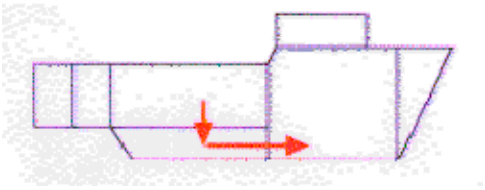
USE OF HATCHES IN WET FISH HOLDS ON CFVs

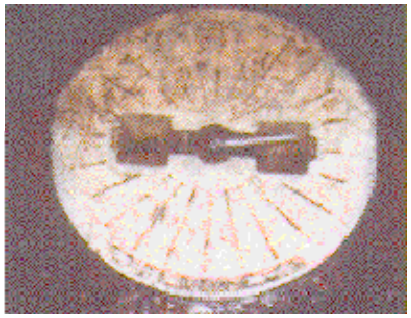
Commercial fishing vessel operators cross rigging their vessels for fisheries that require a "wet" (flooded) fish holds are advised to carefully inspect hatches which may be located in the fish hold to ensure that they are designed for use in under water applications, and if installed, to ensure that they are in good condition. U.S. Coast Guard personnel have recently observed a number of trawlers rigged for mid water herring trawling with aluminum hatch covers installed in the fish hold deck to provide access to the vessel's shaft alley. These vessels, normally employed in the ground fishery, have operated with "dry" fish holds. In this service minimal weight is placed on the hatch covers. When these vessels are utilized for mid water herring trawling, the weight of the water and fish stowed above the hatch cover places tremendous weight onto the aluminum hatch covers in the fish hold deck. Not all aluminum hatches are designed for service where they are placed under water or under significant load for extended periods of time. Operators of vessels fitted with aluminum hatches designed to withstand this service should carefully inspect shaft alley hatches and ensure that the hatches are not damaged, and that the hatch dogs are properly adjusted so that the hatch fits securely to the deck ring without distortion.



The failure of a shaft alley hatch while the vessel is loaded would result in the dropping of water and herring into the shaft alley. This could create a free surface condition in the fish hold. If the vessel did not have a watertight bulkhead between the shaft alley and the engine room, the loss of a shaft alley hatch would result in a dangerous shift of water and fish into the vessel's engine space.

Depending on the configuration of the vessel, the loss of a shaft alley hatch cover may also result in a transverse shift of weight, which would create a heeling moment (list). While longitudinal bulkheads are considered extremely important in safe operation of "'Wet hold" vessels, the loss of a shaft alley hatch from one fish hold compartment might create an exceptionally dangerous condition for deeply loaded vessels.





This hatch cover's broken dog handle indicates damage that may affect performance of the hatch. Commercial fishermen operating in fisheries requiring wet fish holds are requested to contact the manufacturers of hatch covers installed in their fish holds to ensure that they are designed for use in wet holds. If your hatch cover manufacturer advises you that their hatches are designed for that service, request the manufacturer's inspection and adjustment instructions to ensure that the hatch is in top condition.

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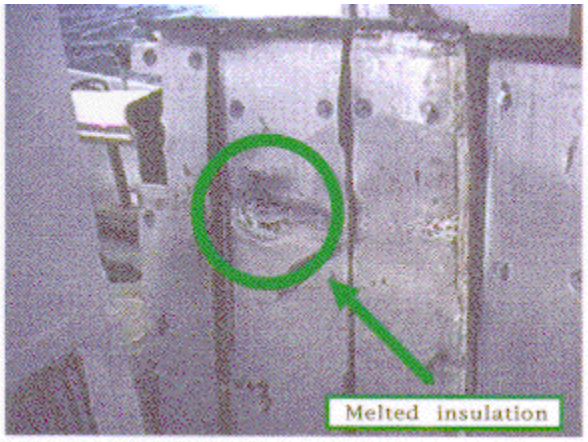
Safety Alert 07-96

FIRE HAZARD OF FOAM INSULATION

On December 1st, 1995 a 50 foot commercial fishing vessel experienced an engine room fire shortly after mooring in Portland, Maine. The original source of the fire was determined to be oily rags and other combustible materials stowed near a heat source (hydraulic day tank and wet exhaust assembly). The combustion of the oily rags, which probably would have remained a minor fire, was found to have quickly spread to extruded polystyrene insulation that had been installed in the engine compartment to reduce noise in the wheelhouse and berthing areas and reduce ice melt in the fish hold.

U.S. Coast Guard personnel have recently observed a number of commercial fishing vessels on which extruded polystyrene insulation (rigid board type insulation) had been installed. Extruded polystyrene insulation, which is typically light blue or pink in color, is extremely flammable, and when ignited, will spread flame rapidly producing large amounts of toxic black smoke. Extruded polystyrene insulation is inappropriate for marine use, especially in areas near potential heat and ignition sources such as galley spaces and engine compartments.



This photograph details a typical use of extruded polystyrene insulation on a commercial fishing vessel. In this application, the insulation has been installed on the engine box cover to reduce engine generated noise. On this vessel the insulation has begun to melt from engine heat. In the event of a high engine temperature or small fire, the insulation could ignite and result in a very rapid flame spread. Vessel operators with similar insulation installations should remove this material as soon as possible. The Coast Guard's primary concern with the use of polystyrene insulation is that a minor fire, which normally could be easily contained, may suddenly result in rapid flame spread and large amounts of black smoke which could disable or trap crew members. Additionally, heat generated by the combustion of polystyrene insulation could ignite other materials, resulting in the loss of a vessel.

All vessel owners and operators are requested to carefully inspect their vessels for this fire hazard. If extruded polystyrene insulation is found onboard your vessel it may present a fire hazard and it should be immediately removed and replaced with insulating materials suitable for high heat locations and marine use. These materials may be marked with USCG approval number 164.009. Although the use of noncombustible materials is not specifically required on commercial fishing vessels, their use is highly recommended.
Coast Guard assistance is available to any vessel owner or operator to help determine if fire hazards exist onboard their vessels. For further information contact the U.S. Coast Guard Marine Safety Office at (207) 780 3251 ext 115.

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SEA KAYAK SAFETY ADVISORY

In May of 1995, a group of sea kayakers paddling near Harpswell, Maine unexpectedly encountered strong currents that resulted in three kayakers being separated from the group and set out to sea. While their friends were set offshore, the main group was able to land their kayaks on a small island. Because a member of the group now ashore carried a signal mirror, the group was able to attract the attention of persons on the mainland, who in turn notified the Coast Guard. Based upon information from persons ashore, a n intensive 5 hour effort was launched that eventually located and recovered the missing kayakers. This incident underscores the need for proper planning and signaling equipment, and revealed some of the inherent difficulties in mounting open water searches for objects as small as sea kayaks.

Based upon this incident and the tremendous growth in popularity of sea kayaking along the Maine coast, the U.S. Coast Guard reminds all sea kayakers to carefully consider and adopt the following procedures to increase their safety:

Voyage planning: When planning a voyage, no matter how short or simple you intend it to be, take a few minutes to leave a float plan, including departure/arrival times, number of people and color of kayaks with a responsible friend. If it's a spur of the moment trip, write a plan just before you go and leave it in an envelope marked "FLOAT PLAN" on the dashboard of your vehicle. Make sure to *always* monitor the weather before and during your trip.

Know your limitations: You alone are the best judge of your own physical limitations, the capabilities of your kayak, and most importantly, your ability to operate your craft and gear. Respect the indiscriminate power of the sea along the exposed Maine coast, and carefully avoid operating in restricted visibility, including fog, rain, and darkness.

Choose your gear carefully: Make sure your kayak and paddling gear is in good condition. Properly dress for the prevailing conditions and include extra clothing and provisions to allow for changes in weather, no matter how nice the day appears. Make sure you've prepared for emergency situations by including safety equipment such as pumps, sponges, a survival knife, paddle float, and most importantly, a high quality, high visibility personal flotation device.

Signaling capability: Sea kayaks are exceptionally difficult to see from a distance, especially in marginal conditions. Compensate for this fact by choosing brightly colored sea kayaks a n d clothing, use retroreflective tape and carry advanced signaling equipment. In a sea kayak you ' re disadvantaged by size. Buy the most advanced signaling equipment available. At least one kayak in a group should carry an electronic communications device, preferably a VHF marine radio or cellular phone. All kayaks should carry a whistle or air horn, signal mirror, and strobe light.

Commercial vessel traffic: Stay well away from commercial vessels, and avoid crossing channels and thoroughfares, especially in restricted visibility. Large vessels often cannot deviate from their course and fishing vessels should be expected to operate on highly erratic courses as they tend gear. Advanced grade flares such as this hand flare can greatly increase detection.

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U.S. Department of Homeland Security

MARINE SAFETY ALERT

Inspections and Compliance Directorate

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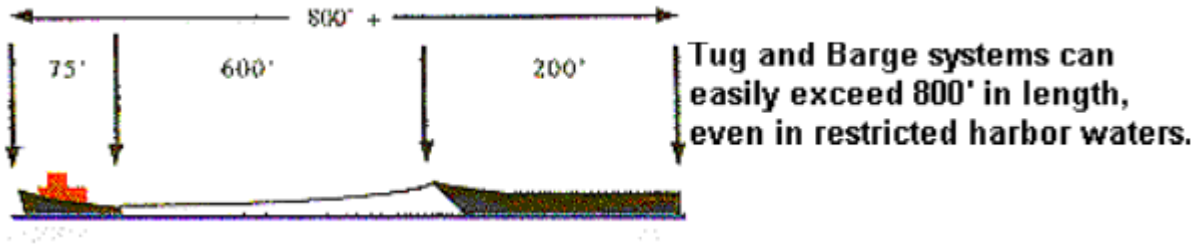
Safety Alert 06-96

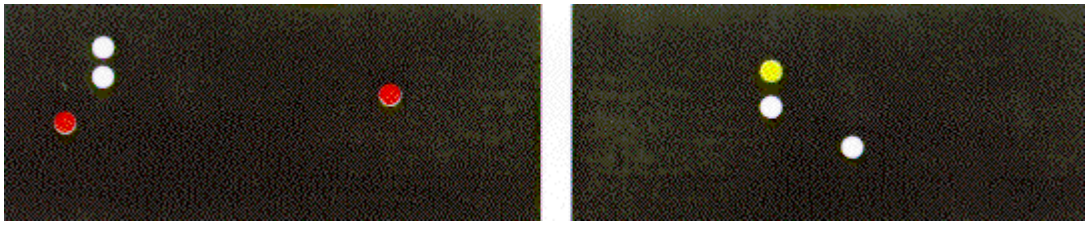
TUG AND BARGE ADVISORY

During the summer of 1995 a recreational boater narrowly escaped serious injury following the collision of his vessel with a tug and barge departing Portland, Maine. In that accident, the tug was towing a barge astern on a single tow wire at night. As the tug and barge headed for sea, the tug was setting the barge out on a long tow wire, a practice which is normal and necessary for the safety of the tug boat's crew. The recreational boat saw the tug, but did not realize it was towing a barge. The recreational boat waited for the tug to pass, and then, at a slow speed, tried to pass immediately behind the tug. It then struck the towing cable, was immediately pulled down by the stern, and was swamped. Accidents of this type are often fatal; in this case, only the slow speed of the recreational vessel and a quick rescue prevented the incident from becoming a catastrophe.



Tugs and barges comprise a vital component of this nation's transportation system, and each year deliver hundreds of thousands of barrels of petroleum and other vital products to Portland and other New England ports. While their passage through New England waters may seem routine to many, these vessels are actually quite difficult to maneuver in ports and other coastal waters, especially when the tug boat is setting a barge out on a low wire or making up for transit into port.

Recreational boaters can do their part in port and harbor safety by recognizing the location of shipping channels and remaining well clear of large commercial traffic, especially tug and barge systems. All mariners should be well aware of the location of shipping channels, anchorages, commercial piers, draw bridges and other congested port areas. Please recognize that tugs and barges and other large commercial vessels need plenty of room to maneuver and prepare for sea and/or berthing. Also, these large vessels can require considerable water to navigate without going aground. It is easy to underestimate how many areas in a harbor these large vessels can't go.



Do you know what these lights mean? Do you know where the tug and barge are?

The system works better if we all know what we're talking about.

Be safe, take a safe boating course. Call 1-800-336-BOAT for more information.

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Safety Alert 05-96

COLD WATER BOATING ADVISORY

U.S. Coast Guard Marine Safety Office Portland, Maine advises recreational and commercial boaters operating their vessels in spring and early summer that despite the warm weather conditions, sea water temperatures in northern New England waters remain quite cold and present the very real danger of hypothermia in the event of accidental immersion.

Hypothermia is a condition where a body's core temperature is reduced to levels where the individual will experience loss of motor control and in many cases, risk death. In the very cold water conditions found along the northern New England coast, individuals experiencing accidental immersion without full body protection from dry suits or wet suits will experience symptoms of hypothermia usually within a matter of minutes.

The Coast Guard strongly recommends that all persons operating on the water in spring and early summer take steps to minimize the risk of accidental immersion, and to develop a personal emergency plan in the event of immersion, which should include:

- The ability to maintain buoyancy.
- The ability to quickly exit the water.
- The ability to summon assistance if you cannot exit the water.
- The ability to preserve body heat while waiting for assistance.
- The ability to rewarm after exiting the water.

Maintaining Buoyancy: The best way to ensure buoyancy is to wear some type of personal flotation device (PFD) at all times while on or near the water. Your choice of PFD should be based on your size and activity engaged in. Make sure you PFD is comfortable to wear and is in good repair. Some types of PFD-s, such as inflatable flotation coats, are not USCG approved. While these devices may not meet the stringent requirements for your vessel's primary lifesaving equipment, they still might be perfectly adequate to use as a wearable flotation aid.

Exiting the Water: If accidentally immersed in cold water you should immediately remove as much of your body from the water as possible. Ideally, you should attempt to reboard your boat. If your vessel is equipped with a Skill switch" which stops the engine if you fall overboard make sure it is properly used. You may want to consider towing an emergency boarding ladder behind your vessel to assist in reboarding.

Summoning Assistance: Every boater should have a whistle to summon assistance on their person at all times. If operating at night. every person should be equipped with a floating marker light, preferably a small strobe light. Do not plan on yelling for help, it requires too much precious energy and your ability to yell loudly will fade as your body cools. If operating away from other boats, consider carrying a small personal flare kit to summon assistance. Rewarming after exiting the water: When ever you are near cold water for work or pleasure you should always have a blanket or change of clothes to rewarm your body. Find the time to take a first aid course and learn how to help others who may be experiencing hvpothermia.

Preserving Body Heat: When immersed in cold water you must preserve your strength and reduce the flow of cold water across your body. If possible remove any part of your body from the water. Anti-Exposure

Coveralls, which are full body PFD's, are particularly effective in preserving body heat, and provide improved bouyancy too. If possible, wear a wool hat while boating to help preserve heat loss from your head. Take the time to learn cold water survival techniques from the Red Cross or other water safety organization.

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GPS NAVIGATION SYSTEM USE

On October 22, 1995 a 35' vessel owned by the State of Maine and operated by a seasoned captain ran aground and sank on Seal Ledge in Penobscot Bay near Vinalhaven Island. The incident occurred at night in clear visibility in moderate sea and wind conditions. The three people onboard were able to successfully abandon the vessel and were rescued without injury after approximately one hour. During an investigation of the incident conducted by the U.S. Coast Guard it was determined that the operator of the vessel was navigating with a recently installed GPS system. The operator was utilizing the GPS unit's "course to steer" function along a set of waypoints previously entered into the GPS system.

The waypoints in use had previously been entered by the operator through a practice known as **relative navigation**, which involves observing a position with an electronic navigation system and entering that position as a waypoint. On future voyages the vessel is navigated to that previously observed waypoint utilizing that electronic navigation system. At the time the waypoints were observed, the operator of the vessel had unknowingly observed and entered an erroneous position recorded at that moment by the GPS system. When attempting to return to that position, the GPS unit calculated the entered position correctly, and the "course to steer" function took the vessel across a submerged ledge. Had the waypoints in use been plotted on a chart prior to the voyage the GPS system error would have been discovered by the vessel operator.

Navigators of vessels equipped with GPS units are advised that the **current system accuracies for GPS units are approximately 328 feet** (100 meters) when attempting to navigate to a known geographic point (latitude and longitude calculated from a nautical chart) and **approximately 463 feet** (141 meters)when attempting to return to a position previously observed with a GPS unit. These distances are 95% accuracies, meaning that 95% of received position fixes will fall within 100 meters of calculated geographic points (specific navigation), and within 141 meters of observed geographic points (relative navigation). More accurate position fixes may be obtained but mariners should allow for the 95% accuracy values. Mariners familiar with Loran-C navigation systems are specifically cautioned that the Loran-C system provides slightly better repeatable accuracies when utilizing relative navigation practices. Care should be taken when switching to GPS units to insure that appropriate system accuracies are compensated for. All mariners are advised that when operating in the vicinity of navigational hazards vessels must be navigated with regard for the vessels position in relation to the hazard. Any electronic navigation system including GPS, may be subject to occasional errors in excess of designed system accuracies and should not be solely relied upon to determine a vessel's position.

The U.S. Coast Guard advises against the use of relative navigation practices in the vicinity of navigational hazards. The recommended methods for calculating voyage waypoints is to calculate the positions directly from a nautical chart.

For additional information of electronic navigation systems contact the U.S. Coast Guard, Portland Marine Safety Office Prevention Department at (207) 780-3251 extension 173. For information on navigation courses offered by the U.S. Coast Guard Auxiliary in your area call 1-800-336-BOAT. This safety alert is provided for informational purpose only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Office of Investigations and Casualty Analysis. For questions or concerns please email hqs-pf-fldr-cg-inv@uscg.mil.

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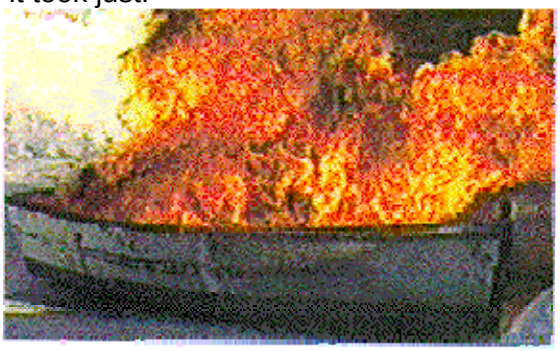
Safety Alert 03-96

PORTABLE SPACE HEATERS

The U.S. Coast Guard recently identified a number of sea urchin vessels with an extremely dangerous fire hazard resulting from the use of portable propane space heaters. Portable space heaters are frequently utilized onboard vessels in this fishery to warm divers and to keep sea urchins from freezing.

Coast Guard personnel have observed, at sea, a number of fishing vessels using these portable heaters while also carrying portable fuel containers, including those used to carry gasoline for outboard engines. If gasoline or other flammable liquids are carried onboard a vessel it is **critically important** to ensure that these items are well separated from any potential ignition sources and secured or lashed in place to prevent shifting.

Accidental spillage of any flammable liquid, especially gasoline, in the vicinity of an open flame source can result in a catastrophic fire that will quickly engulf a vessel. To research the hazard, Coast Guard personnel recently conducted a controlled experiment utilizing a 17 foot open wood skiff. In this test, a portable propane space heater was placed in the vessel with two partially filled gasoline containers to recreate the conditions observed in the top photograph. In this experiment, one gasoline container and the ignited space heater were tipped at the same time, similar to what might be experienced from a large wave or wake from a passing vessel. The experiment demonstrated the inherent dangers of improperly stowed gasoline and portable heaters. From the time the fuel container and propane space heater were tipped on the test vessel it took just:



Test vessel burns 2 minutes 50 seconds after ignition

33 seconds for large amounts of flame to develop.
2 minutes 10 sec. for fire to spread from stem to stern.
3 minutes 28 sec. for the the hull to fail (vessel would have started to sink).

Flame spread in actual fire conditions will vary depending on a large number of factors. This test documents that improper stowage of flammable liquids, especially near open heat sources, is exceptionally dangerous. This type of fire will quickly overwhelm crew members and must be prevented at all costs.

Portable fuel containers must be secured against shifting

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Safety Alert 02-96

United States Coast Guard
2100 Second St. S.W.
Washington, DC 205934-0001

Staff Syrnbol: G-MMS-4
Phone: (202) 267-1444

U.S. Department of Transportation
United States Coast Guard

From:Commandant
To: All District Fishing Vessel Safety Coordinators

Subj: USE OF HEATING TAPE ON COMMERCIAL FISHING VESSELS
Ref: (a) 46 CFR Part 28

1. Last year, a commercial fishing vessel fire resulted in one fatality and the total constructive loss of the vessel. The fire started in a refrigerated hold which was insulated with combustible insulation. A subsequent investigation by the National Transportation Safety Board (NTSB) revealed that the fire was caused by an improper separation of heating tape from combustible insulation.

2. Fires involving combustible insulations covering interior surfaces can spread rapidly and be very difficult to extinguish. Reference (a) permits the use of combustible insulation in cargo spaces and refrigerated compartments. However, reference (a) (46 CFR 28.380(b)) also requires that "an internal combustion engine exhaust, galley uptake, or similar source of ignition must be kept clear of ... combustible material."

3. Heating tape can be used to prevent freezing in pipes which contain water and are in an area subject to freezing. Heating tape, which generates heat by electric resistance, is considered a "similar source of ignition" under 46 CFR 28.380(b), and should be kept clear of combustible insulation.

4. Please use all reasonable means of communication available to bring this information about the hazards of combustible insulation to the attention of members of the commercial fishing vessel fleet.

Original signed on Dec. 20, 1995

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Safety Alert 01-06

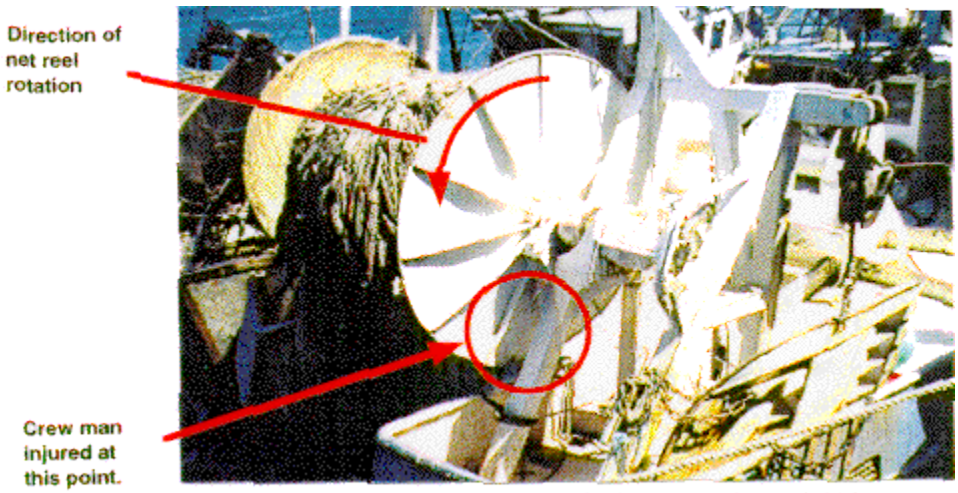
Machinery Hazards

On August 23rd, 1995 a crewman on a fishing vessel operating from Portland, Maine was seriously injured when his right arm was partially severed during haul back of the trawl net. The accident occurred when the crewman's arm was caught between the gallows frame and a stiffening flange on the net reel while the net reel was being backed off. The resulting injury shattered the bone just above the elbow and left the arm partially severed. The net reel on this vessel had twelve stiffening flanges arranged like spokes on a wheel that were approximately three inches deep and cleared the gallows framing by less than one half an inch. As the net reel was within reach of the main deck, this hazard should have been guarded to prevent injury.

Operators of commercial fishing vessels are requested to examine their vessels to insure that this particular hazard does not exist onboard their vessels as well.

Also noted during this accident was the inadequacy of the first aid kit onboard the vessel. Unlike shore based factories and businesses fishing vessels may encounter situations where persons are injured and medical assistance is hours away. Even vessel operators with professionally prepared first aid kits should insure that their vessels are equipped with extra first aid equipment, especially bandages and gauze pads to control serious bleeding.

Coast Guard assistance is available to any commercial fishing vessel to help determine if exposed hazards exist. For further information contact the Portland Coast Guard Marine Safety Office at (207) 780-3251 ext. 115.



View of net reel arrangement on vessel (injury occurred on port side).

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