

Marine Safety Newsletter

U.S. Coast Guard Marine Safety and Environmental Protection Directorate

The USCG's Internal and External Risk Management

"Managing risk is what we do." With those six words the Commandant, ADM James M. Loy, summed up the U.S. Coast Guard's mission during the fall 1999 Flag Conference. The Coast Guard is the nation's maritime risk manager; many of its decisions in the marine safety field deal with risk management issues. Routinely, attempts must be made to identify what can go wrong; how likely and bad it can be; and what can be done to address it. This is accomplished through the steps of hazard identification, risk assessment and risk management.

In November 1999, the Human Resources Directorate released an instruction (COMDTINST 3500.3) on Operational Risk Management (ORM) which focuses on *internal* CG Risk Management associated with unit operations. This year, the Marine Safety and Environmental Protection Directorate will release a COMDTINST on Risk-Based Decision-Making (RBDM) that will apply these same principles to the more diverse, *external* marine environment. While the principles are the same for both, the perspectives and applications differ.

ORM focuses on *internal* risks that arise from unit operations, primarily the health and safety of CG personnel and property. ORM is a valuable instruction that features basic models, tools and checklists that concentrate primarily on tactical situations and CG missions and activities. It uses a small set of models and tools that are simple to apply. Additionally, ORM tools and models are used to answer risk questions that generally are not likely to be subjected to close public scrutiny.

Conversely, the forthcoming RBDM COMDTINST will emphasize the *external* maritime industry. Published along with the RBDM COMDTINST will be a set of tools, called the RBDM Guidelines, which may be used to aid decision-makers in answering risk questions. The tools are dynamic and can handle a wide range of issues and problems. The RBDM instruction will task units that have marine safety responsibilities with integrating RBDM methods into their day-to-day operations and activities. The RBDM Guidelines provide tools that span from ▼

Inside:

- 2 USCG TO LEARN CROWD CONTROL
- 2 A USCG CAUTION
- 2 FREE DSC RADIO REGISTRATION
- 2 WHEW! ... HURRICANE SEASON IS OVER
- 3 SECURITY INSPECTIONS OF HARBORS TO BEGIN
- 3 PASSING THROUGH TEXAS WATERS? INFO NEEDED
- 3 WHAT'S NEW ON THE WORLD WIDE WEB
- 4 IMO CORNER
- 5 PREVENTION THROUGH PEOPLE

Executive Editor

Edward Hardin
(202) 493-1052
ehardin@ballston.uscg.mil

Editor

Jesi Kettler
(202) 493-1058
jkettler@ballston.uscg.mil

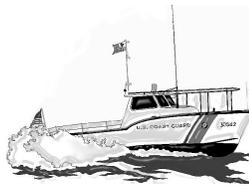
The *Marine Safety Newsletter* is published by the USCG Marine Safety and Environmental Protection Directorate to collect and disseminate information of general interest to the maritime community. The monthly newsletter prints abstracts of major USCG rulemakings, studies, special projects, and related events. Articles from non-Coast Guard sources may not represent USCG policy or views.

The inclusion of the name of a specific commercial product, commodity, service, training, or company in this publication is for informational purposes only and does not imply endorsement by the United States Coast Guard.

Contents of this publication are not copyrighted unless indicated. If not copyrighted, the material may be reproduced freely; citation of the *Marine Safety Newsletter* as the source is appreciated. Permission to reproduce any copyrighted material must be obtained from the original source.

www.uscg.mil/hq/g-m/gmhome.htm

January 2001



▲ the very simple to the more complex. The guidelines include tools to address prevention, preparedness, and response issues. This broader perspective includes CG risks and considers external risks to the general public and environment. The RBDM tools will also help you make decisions that are supportable and defensible. The more thorough consideration provided by the RBDM tools may be needed in controversial issues, where public interest is high or the decision may be subjected to greater scrutiny.

Applying ORM or RBDM is not necessarily an either/or choice. The complexity of marine safety issues and the number of parties can preclude the application of ORM tools. Nevertheless, there may be circumstances, especially related to tactical issues such as response operations, where ORM is applicable. In selecting ORM tools, you must consider whether they yield adequate information and support for the decision to be made. At other times, some *internal* risk management questions may require a deeper, more thorough analysis that can not be achieved by ORM. In these situations, the RBDM tools are likely to provide the appropriate approach. A guiding philosophy of risk management is to perform the *minimum analysis* that will generate *adequate information* for the decision-maker's needs.

The two programs (ORM and RBDM) are neither redundant nor competing – they complement each other. Where ORM helps manage internal risk, the RBDM Guidelines are intended for external applications, thus providing the USCG with a full set of tools and methods to manage the entire risk spectrum. For additional information on the RBDM Guidelines contact CDR Tim Close in G-MSE-1 or visit the new Risk Website at www.uscg.mil/hq/g-m/risk.

USCG to Learn Crowd Control

U.S. Coast Guard crews soon may be equipped with self-protection gear, non-lethal weapons and crowd control tactics in order to more safely combat potentially violent migrants attempting to enter U.S. waters. The Coast Guard is cooperating with military units to gain helpful tips and access to non-lethal weapons, but will then need to learn how to adapt the equipment and lessons for use on the water. A new Coast Guard task force, Project Ericson, has spearheaded the movement.



ons, but will then need to learn how to adapt the equipment and lessons for use on the water. A new Coast Guard task force, Project Ericson, has spearheaded the movement.

A USCG Caution:

As lakes and rivers freeze, their icy tops may seem welcoming for play and fishing. However, precautions must be taken to prevent drowning, hypothermia or serious injury. A minimum thickness of two inches of ice is needed to support one person, four inches to support two men, five inches to hold a snowmobile, eight inches to support a car, and 10 to 12 inches to support a light truck. Ice does not form or maintain the same thickness throughout, and an ice sheet could vary from 12 inches to one inch within a distance of 10 feet. Hypothermia can set in as soon as a person's core temperature drops below 95 degrees. For more information call the Ninth Coast Guard District Public Affairs office at (216) 902-6020.



Free DSC Radio Registration

BoatU.S. officials announced in December they will issue free identification numbers for marine radios with digital selective calling to boaters who want to use this safety method. Previously, boaters who wanted identification numbers had to pay \$120 for an FCC license.

DSC is part of the global transition in maritime distress communications from voice calls (on channel 16) to digital communication. The major advantage of a DSC is its ability to send an automatic mayday call, which identifies the vessel, as well as gives its location when the radio is connected to a Loran or GPS. Should the skipper become disabled, a DSC radio will continue sending a mayday. A DSC radio also allows boaters and commercial vessels to make a private radio call – with an MMSI number – to another DSC-equipped vessel. Only the radio number called will receive the transmission.

To register for an identification number, boaters may visit BoatUS.com and click on "MMSI." Once the registration form is accepted, their MMSI numbers will be issued electronically. Boaters may also Email BoatU.S. at MMSI@BoatUS.com. To ask questions or receive a registration form, call (800) 563-1536. Completed forms may be faxed to BoatU.S. at (703) 461-2840, or mailed to the BoatU.S. MMSI program at 880 S. Pickett St., Alexandria, VA 22304.



Whew! ...

Hurricane Season is Over

Eight hurricanes and six tropical storms later, the 2000 hurricane season has reached its end. The year's only major storm hit Central America and some parts of Mexico, while only two storms landed in the U.S.

Florida experienced both in September; Gordon fell as a tropical storm just after it was downgraded from a hurricane, causing \$10.8 million in damage, and Helene hit the Panhandle region a few days after Gordon, causing \$16 million in damage. The Associated Press reported a trend in the number of hurricanes, with more than 10 each year since 1995, excluding 1997. The weather phenomenon dubbed La Nina (or El Nino) has been credited with making conditions in the Atlantic more favorable for tropical storms, perhaps causing the trend.

Belize, Nicaragua and parts of Mexico fell prey to Hurricane Keith, which was a category 4 storm at its highest point. The countries were victimized by mud slides and flooding, and deaths were reported mostly in Nicaragua and some in Mexico.

Security Inspections of Harbors to Begin

In the aftermath of the October USS Cole terrorist bombing in Yemen that killed 17 American sailors and wounded another 39, the U.S. Coast Guard and Navy both will begin security inspections of stateside and international harbors used by the military. The inspections will serve to bolster security already in effect, and make sure existing security policies are carried out properly. The inspections will start with the areas that present the highest threat to naval ships in certain regions, including the Middle East. Since the attack, no Navy ships in the Persian Gulf have docked in regional ports for security reasons.

Although Yemen officials asked the U.S. government for help patrolling the country's shores and battling pirates more than a year ago, the Coast Guard is now working with Florida-based Central Command to get 13 coastal patrol boats to Yemen. The boats will be Coast Guard surplus, and able to accommodate a crew of three to 25 sailors. A method of payment for use of the ships and American crew has not yet been arranged.

Passing Through Texas Waters? Info Needed

The Oil Spill Prevention and Response Act of 1991 requires that owners and operators of certain vessels, those carrying oil as cargo and those in excess of 400 gross tons, submit emergency response information to the Land Office prior to entering Texas coastal waters. Effective Dec. 3, the Texas General Land Office adopted changes to these requirements, enforcing a dramatic reduction of submission requirements and an upgrade to oil spill preparedness.

Rather than submitting vessel response plans or shipboard oil prevention emergency plans to the Land Office, vessel owners and operators will only be required to provide a limited amount of specific emergency operation information. This change eliminates costs associated with preparing and sending documents to the Land Office for compliance with the Oil Spill Prevention and Response Act.

Along with the new regulations comes a new interactive Internet database on the Land Office's Oil Spill Web site that provides a mechanism for vessel owners and operators to make "real time" changes in emergency information required to be submitted to the agency. The database can be entered by clicking on the vessel icon on the Oil Spill Web page located at www.glo.state.tx.us/oilspill. If a vessel owner or operator does not have Internet access, information may be provided using Oil Spill Form OS-004.

Contact the Texas Land Office at (512) 463-8530 or at Vessel.Plan@glo.state.tx.us.

WWW.



What's New on the World Wide Web

www.uscg.mil/hq/g-m/gmhome.htm

The Marine Safety and Environmental Protection Directorate Risk Home Page

<http://www.uscg.mil/hq/g-m/risk/>

An Interagency Research and Development Committee for Safer Ship Structures

<http://www.shipstructure.org/>

Ships Soon to Carry Black Boxes

New regulations from the International Maritime Organization require all passenger ships, and non-passenger ships with 3,000 tons or more, built on or after July 1, 2002, to carry voyage data recorders, also known as black box recorders, similar to those carried on aircrafts. An IMO statement also regulated that passenger ships built before then will have to be fitted with the devices by the beginning of 2004. The IMO also will study the feasibility of installing black boxes on cargo ships built before July 1, 2002.

Voyage data recorders collect output from a ship's equipment and can help investigators reconstruct the actions of a vessel and its crew in the moments before an accident.

The rulings come as amendments to the International Convention on the Safety of Life at Sea, which has been ratified by 141 countries.

MSC to Help Eliminate Sub-Standard Ships

IMO's Maritime Safety Committee has developed a preliminary list of proposed measures aimed at eliminating sub-standard oil tankers and other sub-standard ships. During the MSC's 73rd session from Nov. 27 to Dec. 6, 2000, a working group agreed to a list of 22 proposed measures aimed at "enhancing safety and minimizing the risk of oil pollution." The report will be referred to other IMO sub-committees and the Marine Environment Protection Committee for general consideration.

The list was developed from proposed measures drawn up by the MEPC during its October

session. This preliminary list can be viewed in its entirety on the Web at <http://www.imo.org/imo/briefing/2000/fax27.htm>.

White List Released

IMO officials have released a White List of countries deemed to be giving "full and complete effect" to the revised Standards of Training, Certification and Watchkeeping for Seafarers (STCW) 95 Convention. The 73rd session of the organization's MSC meeting formally endorsed the findings of a working group established to examine a report made by the secretary general to the MSC, which revealed that 71 countries and one associate member of IMO had met the criteria for inclusion on the list.

A position on the White List entitles other parties to accept, in principle, that certificates issued by or on behalf of the listed parties are in compliance with the Convention. It is expected that ships flying flags of other countries not on the White List will be increasingly targeted by port state control inspectors. A Flag State party that is on the White List may, as a matter of policy, elect not to accept seafarers with certificates issued by non-White List countries for service on its ships. If it does accept such seafarers, they will be required by Feb. 1, 2002 to also have an endorsement, issued by the Flag State, to show that their certificate is recognized by the Flag State. By Feb. 1, 2002, masters and officers should hold STCW 95 certificates or endorsements issued by the Flag State.

For more information, or to view all parties included on the White List as of Dec. 6, 2000, visit <http://www.imo.org/imo/briefing/2000/fax26.htm>.

UPCOMING IMO MEETINGS

Jan. 8-12	Sub-committee on Fire Protection, 45th session
Jan. 22-26	Sub-committee on Standards of Training and Watchkeeping (STW), 32nd session
Jan. 29-30	IOPC Funds
Feb. 5-9	Sub-committee on Bulk Liquids and Gases, 6th session
Feb. 19-23	Sub-committee on Flag State Implementation (FSI), 9th session
March 5-9	Sub-committee on Ship Design and Equipment (DE), 44th session
March 19-23	Diplomatic Conference to Consider an International Regime for Liability and Compensation for Pollution from Ships' Bunkers
April 23-27	Marine Environment Protection Committee (MEPC), 46th session

Mariner's Nightmare: Engine Room Fire

An engine room fire is probably among the most dangerous casualties faced by professional mariners. The worst kind of engine room fire arguably is one caused by atomized fuel from a pressurized fuel line. Recently the crew of a towing vessel faced this very situation off the coast of Virginia.

The engineer was in the galley when he heard a noise similar to an explosion. He went to the engine room and found it engulfed in flames. Unable to fight the fire with the semi-portable fire extinguisher located in the engine room, he was forced to retreat. Soon afterward the vessel lost electrical power, leading to a loss of steering. Without electrical power the vessel also was unable to run the fire pump. Fortunately the tug was in the notch of a barge and was able to use fire hoses rigged from the barge to cool the boundaries. Portable fire extinguishers were used to shut down the main diesel engine, which stopped the flow of fuel oil. Once the combustible materials on the upper level of the engine room were consumed, the fire went out.

The investigation revealed the crossover fuel hose assembly had failed because of the connection fitting. Atomized fuel sprayed onto the coils of a nearby unprotected electric motor, igniting the fuel and causing the noise heard by the engineer in the galley. Examination of the hose disclosed that it did not meet the engine manufacturer's specifications. Ironically, the correct fuel hose was on board in the spare parts inventory.

Lessons Learned

First, let's consider what went right. The response of the crew to this fire was excellent. Without proper protective gear they wisely chose not to enter the space

on fire. They overcame the loss of the fire pump by using hoses from the barge, and prevented the spread of the fire. With the fire contained and the fuel source secured, they patiently waited for the fire to burn out. They saved the vessel and did so without injury to anyone aboard.

Next, let's consider the fire fighting lessons. Like many towing vessels, the semi-portable extinguisher was located in the engine room, which is the most common location for a fire on any vessel. When the engineer was forced to retreat, the crew lost one of their most important fire fighting tools. The next obstacle to be encountered was the loss of electrical power, leading to a loss of the installed fire pump. If the tug had not been in the notch of the barge they would have had no means of providing fire-fighting water, since the tug was not equipped with a portable fire pump for this contingency. Finally, the tug was not equipped with emergency fuel shutoffs. Fortunately they were able to shut down the main engines by discharging portable CO2 extinguishers into the engine air intakes, thus securing the fuel. Without those CO2 extinguishers, it is likely the fire would have become out of control.

Could this fire have been prevented? You bet! There have been other fires related to the crossover fuel hose assembly on this model engine (Alco Series 251). Previous fires have been blamed on the hose chafing on the lifting padeye on the rear of the engine, just below the hose. The manufacturer's hose specifications are very exact. In this case the proper hose was onboard, but not installed. **It is imperative that all flexible fuel hoses on any marine engine be inspected carefully and at frequent intervals. Always use approved flexible fuel hoses meeting the manufacturer's specifications.**

Contributed by Marine Safety Office Hampton Roads

PRINCIPLES

- Take a Quality Approach
- Honor the Mariner
- Seek Non-Regulatory Solutions
- Share Commitment
- Manage Risk

VISION

To achieve the world's safest, most environmentally sound and cost-effective marine operations by emphasizing the role of people in preventing casualties and pollution.

GOALS

- Know More
- Train More
- Do More
- Offer More
- Cooperate More

Contact us directly with your PTP story:

Commandant (G-MSE-1), U.S. Coast Guard Headquarters, 2100 Second Street, SW, Washington, DC 20593-0001; (202) 267-2997; (202) 267-4816 FAX; e-mail: fldr-he@comdt.uscg.mil

Contributions

Marine Safety Newsletter and *Proceedings* magazine welcome manuscript and photo submissions for publication. No payment can be made for manuscripts or photos submitted for publication. However, an author or photo credit byline will be given. The Editor reserves the right to make any editorial changes in manuscripts, which he believes will improve the material without altering the intended meaning. All correspondence should be addressed to: Editor, U.S. Coast Guard, National Maritime Center, 4200 Wilson Boulevard, Suite 630, Arlington, VA 22203-1804.

Deadlines

- The Marine Safety Newsletter is published monthly on the 5th of each month.
- The deadline for articles, calendar events, and regulatory information is on the 25th of the previous month.
- Readers receive their copy of the *Marine Safety Newsletter* around the 15th of each month.

Up to the Minute News

Items missing the deadline for the *Marine Safety Newsletter* are posted on the World Wide Web at:

www.uscg.mil/hq/g-m/gmhome.htm.

Address Changes

If you would like to receive the Marine Safety Newsletter or change your address (be sure to send label or include code number), please call **(202) 493-1056** or fax **(202) 493-1065**.