



U.S. COAST GUARD



Homeland Security

## FY06 Environmental Health Report

The purpose of our annual safety report is to raise the awareness of the CG community regarding the Coast Guard Headquarters Environmental Health Division at CG HQ. The Division of Environmental Health (EH) exists to provide guidance regarding Environmental Health topics of concern. Our assistance is provided to the field via our MLC (kse) personnel and their Detached Safety and Environmental Health personnel located at each ISC.

Creation of the EH Division serves to compartmentalize a number of disciplines which include not only what would be considered 'classic EH' such as food, water, and good sanitation practices, but also includes the disciplines of industrial hygiene (IH), human factors (HF), and occupational health (OH) monitoring. Together, these disciplines address those aspects of human health, including quality of life, that are determined by physical, chemical, and biological factors in the environment. It also refers to the theory and practice of assessing, correcting, controlling and preventing those factors in the environment that can potentially affect adversely the health of present and future generations.

The EH program in the CG provides the following assistance to the field in the form of consultation, training/information packages, and on site assistance. Our MLC (kse) personnel provide the following services on an established frequency based upon perceived risk or by special request:

- Occupational medical surveillance coordination
- Workplace Health Risk Assessments
- Crew Endurance Management (CEM)
- Food sanitation evaluations
- Food borne illness investigations
- Potable water and waste water concerns
- Disaster response support
- Overseas EH threat information
- Housing EH risk assessment
- Respiratory protection assistance
- Sound surveys in the work environment
- Vessel De-ratting exemption certificates
- Pest control guidance
- Human System Integration (HSI)
- Workplace ergonomics evaluations
- Impact shock and vibration evaluations
- Human Factors assessments in mishaps
- Human Factors Analysis and Classification System (HFACS)
- Sanitation inspections
- Potable water evaluation and testing
- Confined space identification
- Risk identification / Risk management
- Training and education
- Investigate unusual occurrences of occupational or communicable disease
- Health and safety assistance for AMIO
- Avian and Pandemic Influenza Planning

### Table of contents:

Crew Endurance Management (CEM)  
Coast Guard Katrina Response: Exposures and Health Effects and OMSEP updates  
Human Factors Analysis Classification System (HFACS)  
Ergonomics  
COMDTINST Revisions  
COMDTINST 6260.25, (Benzene) Cancelled  
Avian/Pandemic Influenza

### **Crew Endurance Management (CEM)**

Human factors continue to dominate as causal factors in mishaps. In March, 2006 the Coast Guard took a bold step forward to better control one of the common human factors in mishaps, fatigue or crew endurance risk, by releasing a Commandant Instruction (COMDTINST 3500.2 Crew Endurance Management) that mandates every operational unit conduct an endurance risk assessment at least once per year. Using a state-of-the-art tool that is available on the CG safety web site (<http://www.uscg.mil/safety/cem.htm>), units can identify and manage endurance risk factors that can compromise their operational readiness and leave them susceptible to mishaps. In addition, these tools can be used to assess future operations for endurance risk and assist in the planning and execution of missions. These tools were used recently to assist aviation program managers in the planning for the National Capitol Response mission. The tools identified endurance risk associated with some duty schedules and provided alternatives that not only ensured crew endurance but also improved mission capabilities and readiness.

### **Coast Guard Katrina Response: Exposures and Health Effects:**

The Occupational Medical Surveillance and Evaluation Program (OMSEP) is designed to identify and prevent work related disease and injury. As recent responses to Hurricanes Katrina and Rita unfolded, it became evident there were multiple, unknown potential exposures necessitating the development of an incident specific exposure tracking tool for those involved in the responses.

In an effort to protect our Coast Guard responders, the Significant Event/Acute

Exposure Tracking Tool was created. This intranet accessible, SQL-based tool serves as a registry for personnel to permanently document their exposures, experiences and health effects. It provides a mechanism for access to required occupational surveillance or health care. This tool facilitates epidemiological analysis of who (by mission), where (by site location), when (by duration or point in time), and what risk factors (by exposures or assigned unit) may have potential occupational implications for both acute and chronic disease patterns. If there are any identified abnormalities within a specific group(s) of responders, this database will allow our medical community to follow-up with responders of similar exposure groups potentially identifying abnormalities earlier than would normally be the case thus allowing for medical intervention to prevent disease progression.

### **Human Factors Analysis Classification System (HFACS)**

Human factors continue to be the most commonly cited (80%-90%) cause of mishaps. To substantially reduce the incidence and severity of mishaps, more attention and innovative approaches are needed to better understand and document the role human factors in the mishap chain. Through the Joint Services Safety Chiefs (JSSC) a Memorandum of Agreement (MOA) was signed by all the services to develop and implement a standard approach to collect, store and analyze human factors data. While all the services currently collect human factors data during mishap investigations, all use different approaches which make it difficult to share data and explore opportunities to mitigate human factors deficiencies. The MOA stipulates that services will use a modified version of the Human Factors Analysis Classification System (HFACS) to investigate all Class A, B and POV mishaps. While HFACS was originally created by the Navy to analyze human factors in aviation mishaps, the new version can be used for any type of mishap

(aviation, afloat and ground). It is recommended that anyone who may be involved in a Class A, B, or POV mishap investigation become familiar with the HFACS process. A HFACS guide can be downloaded by going to <http://www.uscg.mil/safety/hfacs.htm>.

Training on how to use HFACS during mishap investigations will be available later this year and integrated into safety course curricula.

### **Ergonomics**

Many CG environments place personnel at risk for musculoskeletal injury (MSI). Jobs that are high risk for MSI generally have one or more of the following characteristics: excessive use of *force* against an object, *repetitive* in nature, *awkward postures* or positions, *contact stress* between the body and physical environment, and conducted for extended periods of time (*duration*). Some of the signs and symptoms of MSI include swelling, redness, reduce mobility, numbness, tingling, and pain. Anyone experiencing these signs and symptoms should inform their supervisor and seek medical assistance. Additional information MSI or musculoskeletal disorders (MSD) can be found the CG Safety web site by going to <http://www.uscg.mil/safety>.

### **COMDTINST REVISIONS**

#### **Coast Guard Heat Stress Instruction**

COMDTINST XYZ, CG Cutter Heat Stress Program and COMDTPUB 6200.12, Preventing Heat Injuries have been combined to form the new Coast Guard Heat Stress Instruction for vessel and shore units. Combining these two references into a comprehensive heat stress program is seen as a positive step towards streamlining how the Coast Guard will address this hazard across all platforms and work conditions. This Instruction is currently in draft form, ready to be sent through the Concurrent Clearance process.

### **Coast Guard Occupational Medical Surveillance and Evaluation Program (OMSEP)**

Recent updates to the OMSEP program include the aforementioned Katrina/Rita. We have also made changes to ensure that both civilians and Auxiliary personnel performing potentially hazardous duties are also entitled to physical examinations if they meet the enrollment criteria set forth in chapter 12. In addition, we have clarified who is responsible for entering completed physical dates in the online OMSEP database. Clinic personnel are now responsible for ensuring that, upon completion of an OMSEP physical, the appropriate date is entered.

### **COMDTINST 6260.25, Implementation of the Benzene Occupational Exposure**

The Coast Guard's Benzene instruction has been cancelled. Coast Guard units are directed to comply with the lowest recognized exposure standard set by the American Conference of Governmental Industrial Hygienists (ACGIH) of 0.5 parts per million (half of the established TLV of 1.0 ppm) over an 8-hour work day.

### **Avian/Pandemic Influenza**

In November of 2005, our Coast Guard Directorate of Health and Safety, as tasked by the Department of Homeland Security, to develop a comprehensive, strategic plan to protect the DHS workforce. Our mission was to lead DHS's Workforce Assurance Workgroup in a multi-Component team to protect, prepare, and respond to a Pandemic Outbreak. To date the Workforce Assurance Workgroup has assisted in the development of the following: Provided several rounds of technical review of Homeland Security Council's Implementation Plan for the National Strategy on Pandemic Influenza;

Provided critical review of made several necessary changes to the Federal Preparedness Circular 65, and the United States Department of Agriculture's Interagency Playbook; Developed a conceptual model for determining which categories of occupations, specific to each DHS component, may be considered high risk or mission critical operations. In conjunction with this, the Workgroup crafted a cost estimate calculator each component used to estimate their personal protective equipment costs thus allowing all DHS components with a common reporting mechanism; Developed policy papers related to the use of personal protective equipment, use of anti-virals and vaccinations, teleworking, and the mandatory use of PPE and pharmacologic protective methods for the DHS Secretary's signature on Departmental policy; Assisted the DHS Chief Medical Officer with developing the Proposed Spend Plan to the House and Senate Committees on Appropriations related to DHS Funding for Pandemic Influenza which resulted in Coast Guard receiving \$3.44M to proceed with measures necessary to prepare the Coast Guard workforce to continue its mission during pandemic conditions; Assisted Transportation Security Administration, Customs and Border Patrol, and Immigration and Customs Enforcement by providing a review of their Pandemic Influenza training programs; In addition, our CG workgroup members have developed and delivered presentations of the Workforce Assurance workgroup's progress during the DHS Administrative Forum, Navy Occupational Safety and Health conference, and the American Industrial Hygiene Association conference.