U.S. Department of Homeland Security

United States Coast Guard

Safety and Environmental Health Manual

COMDTINST M5100.47C
FEBRUARY 2019

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United States Coast Guard

Commandant
United States Coast Guard

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COMMANDANT INSTRUCTION M5100.47C

Subj: SAFETY AND ENVIRONMENTAL HEALTH MANUAL

1. PURPOSE. This Manual sets forth the key elements of the Coast Guard's Safety and Environmental Health (SEH) Program, assigning responsibilities for the implementation of those program elements and specifying the SEH standards that are to be applied within the Coast Guard. Chapters within this Manual contain policy and responsibilities, applicable across all missions and mission support operations, including the operational community (aviation, afloat, and shore-based units).

2. ACTION. All Coast Guard Area Commanders, Sector/Group Commanders, Commanding Officers, Officers-in-Charge, Deputy/Assistant Commandants, and Chiefs of Headquarters staff elements must comply with provisions of this Manual. Internet release is authorized.

3. DIRECTIVES AFFECTED. The Safety and Environmental Health Manual, COMDTINST M5100.47B and the Fire Safety, Prevention and Emergency Response Services, COMDTINST M11320.1 are hereby cancelled.

4. DISCUSSION.

   a. This Manual provides policies required to implement, monitor and support the Coast Guard's SEH Program. Each Chapter cites a tailored list of SEH sub-topic references, including any applicable laws, regulations, standards, policies and guidance.

   b. This Manual originates specific policy guidance only when required by federal law or service standards. In writing this policy Manual, all attempts were made to avoid prescriptive guidance and procedural details better suited for promulgation in Standard Operating Procedures (SOP) or Tactics, Techniques, and Procedures (TTP) publications.

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NON-STANDARD DISTRIBUTION: None

c. This Manual applies to bargaining unit employees covered by a negotiated agreement with safety and health provisions. In the event that the requirements/guidance in this Manual conflict with the safety and health provisions in the negotiated agreement, the negotiated agreement takes precedence.

5. DISCLAIMER. This guidance is not a substitute for applicable legal requirements, nor is it itself a rule. It is intended to provide operational guidance for Coast Guard personnel and is not intended to nor does it impose legally-binding requirements on any party outside the Coast Guard.

6. MAJOR CHANGES. Major changes to the previous version of this Manual are summarized below:

a. All Chapters.

(1) Multiple content revisions to comply with Coast Guard policy (*Writing in Plain Language to Increase Effectiveness*, COMDTINST 5216.6 (series) and guidance stemming from federal law and OMB-directed writing standards (*Federal Plain Language Guidelines*, March 2011, Rev. 1, May 2011).

(2) References unique to SEH programs were updated for each Chapter including addition of Coast Guard Tactics, Techniques, and Procedures (TTP), wherever applicable. Keeping precedent from previous revisions, hundreds of references are divided into 28 Chapter lists enabling readers to promptly review relevant source information cited throughout the Manual.

(3) Added responsibility for Chief, Human Systems Integration (HIS) Division (CG-1B3) to ensure applicable Technical Warrant Holders apply proper requirements and standards to the design and development of new systems, assets and platforms.

b. Chapter 2 – Safety and Environmental Health Standards and Responsibilities. Responsibilities include updates, modifications and clarification of general responsibilities.

c. Chapter 3 – Mishap Response. Multiple content and structural changes. Chapter should be reviewed in its entirety. Primary changes include:

(1) Section B – Added clarification to Other Reportable Events, Non-Reportable Events

(2) Section B – Provide clarification on mishap costing.

(3) Section B – Provide clarification on OPMODE designation.

(4) Section D – Modified mishap reporting requirements.

(5) Section E – Introduce the Missionized Safety Assurance Force (MSAF) for mishap response and analysis.

d. Chapter 4 – Identification and Control of Workplace Hazards. Several Content Changes. Primary changes include:

(1) Section B – Removed content on Risk Assessment Matrix (RAM) and Risk Assessment Codes (RAC).

(2) Section B – Compliance Assessments content updated.

e. Chapter 5 – Councils and Committees. Added Human Factors Council, Joint Service Safety Council, Tripartite, and Laser Safety Review Board.

f. Chapter 6 – Safety and Environmental Health Training Program. Removed Emergency Response Operations training requirements. The training requirements are captured in Chapter 11 – Hazard Communication.

g. Chapter 7 – Personal Protective Equipment (PPE) Program. Several content changes to include:

(1) Mandatory Use of PPE - Expanded the paragraph to include addition of content on high-visibility safety apparel requirements.

(2) PPE Selection - Expanded the paragraph to include use of PPEs that that have been recognized and approved by federal specifications or consensus standards and/or specifications.

(3) PPE procurement – Added a paragraph on PPE procurement.

h. Chapter 8 – Thermal Stress Program. Expanded administrative controls under Section B to identify who conducts thermal stress training.

i. Chapter 9 – Respiratory Protection Program. Content updates specific to Exposure Assessment, Respirator Selection and Respiratory Protection Selection.

j. Chapter 10 – Hearing Conservation Program. Several content and structural changes. Primary changes include:

(1) Section A –- Discussion was updated to emphasize Application and Occupational Exposure Limits.

(2) Section B – Medical Surveillance content added.

k. Chapter 11 – Hazard Communication Program. Several content changes. Primary changes include:

(1) Added references linked to existing or updated contents, including addition of the Hazardous Waste Operations and Emergency Response, 29 C.F.R. § 1910.120 (q) and U.S. Coast Guard Marine Environmental Response and Preparedness Manual, COMDTINST M16000.14 (series).

(2) Section A – Discussion. HAZCOM and HAZWOPER content updated.

(3) Section B – HAZCOM and HAZWOPER training requirements updated.

(4) Section C – Responsibilities includes updates, modifications and clarification of general responsibilities.

h. Chapter 12 – Asbestos Awareness Program. Several content changes. Chapter should be reviewed in its entirety.

i. Chapter 13 – Confined Space Entry Program. Several content changes. Chapter should be reviewed in its entirety.

j. Chapter 14 – Control of Hazardous Energy (Lockout/Tagout). Changed the Chapter title from "Isolation of Energy Sources (Lockout/Tagout) to "Control of Hazardous Energy (Lockout/Tagout)" to align with OSHA regulations.

k. Chapter 15 – Bloodborne Pathogen Program. Several content changes. Chapter should be reviewed in its entirety.

l. Chapter 16 – Motor Vehicle and Recreational Off-Duty Safety Program. Updated policy regarding low speed utility vehicles. Added policy regarding renting ATV's in foreign ports. Clarified motorcycle safety training for three-wheeled and off-road motorcycles.

m. Chapter 18 – Shore Fire Protection Program. Several content and structural changes. Primary changes include:

(1) Added references linked to existing or updated content.

(2) Section B.1–26 was updated to provide a general sequence of policy from the Fire Safety Prevention and Emergency Response Services, COMDTINST M11320.1 (series).

n. Chapter 20 – Aviation Safety Program. Made several content and structural changes. Primary changes include:

(1) Section B – Aviation Safety Assurance content updated to address Aviation Safety Standardization Assessment.

(2) Section B – Aviation Safety Competencies content updated to address Mission Assurance Safety force and Aviation Safety Examiner.

(3) Section C – Responsibilities includes updates, modifications and clarification of general responsibilities.

o. Chapter 21 – Afloat Safety Program. Chapter completely re-written. Chapter should be reviewed in its entirety.

p. Chapter 22 – Ionizing Radiation Program. Made several content Changes. Chapter should be reviewed in its entirety.

q. Chapter 23 – Non-Ionizing Radiation Program. Made several content Changes. Chapter should be reviewed in its entirety.

r. Chapter 25 – Environmental Health Program. Made several content changes. Chapter should be reviewed in its entirety.

s. Chapter 27 – Lead Hazard Control. Made several content changes. Chapter should be reviewed in its entirety.

t. Chapter 28 – Deployable Specialized Forces Safety. New Chapter. Chapter should be reviewed in its entirety.

u. Chapters 4 through 27 Paragraph A (Discussion). Revised to a standard structure focusing on the most relevant content.

v. Enclosure (1) – Acronym Table. Updated.

7. IMPACT ASSESSMENT. No personnel, training or funding increases were generated by the reissue of this Manual.

8. ENVIRONMENTAL ASPECT AND IMPACT CONSIDERATIONS.

   a. The development of this Manual and the general policies contained within it have been thoroughly reviewed by the originating office in conjunction with the Office of Environmental Management, and are categorically excluded (CE) under current USCG categorical exclusion #L5 from further environmental analysis, in accordance with the Department of Homeland Security's Implementation of the National Environmental Policy Act, DHS Instruction Manual 023-01-001-01 (series).

   b. This directive will not have any of the following: significant cumulative impacts on the human environment; substantial controversy or substantial change to existing environmental conditions; or inconsistencies with any Federal, State, or local laws or administrative determinations relating to the environment. All future specific actions resulting from the general policies in this Manual must be individually evaluated for compliance with the National Environmental Policy Act (NEPA), DHS and Coast Guard NEPA policy, and compliance with all other environmental mandates.

9. DISTRIBUTION. No paper distribution will be made of this Manual. An electronic version will be located on the following Commandant (CG-612) web sites. Internet: http://www.dcms.uscg.mil/directives/, and CGPortal: https://cgportal2.uscg.mil/library/directives/SitePages/Home.aspx.

10. RECORDS MANAGEMENT CONSIDERATIONS. This Manual has been evaluated for potential records management impacts. The development of this Manual has been thoroughly reviewed during the directives clearance process, and it has been determined

there are further records scheduling requirements, per the Federal Records Act, 44 United States Code (U.S.C.) §§ 3101, et seq., National Archives and Records Administration (NARA) requirements, and the Information and Life Cycle Management Manual, COMDTINST M5212.12 (series). This policy has significant or substantial change to existing records management requirements.

11. FORMS/REPORTS. The forms referenced in this Manual are available in USCG Electronic Forms on the Standard Workstation or on the Internet: https://www.dcms.uscg.mil/Our-Organization/Assistant-Commandant-for-C4IT-CG-6/The-Office-of-Information-Management-CG-61/Forms-Management/CG-Forms/, CGPortal: https://cgportal2.uscg.mil/library/forms/SitePages/Home.aspx.

12. REQUEST FOR CHANGES. Units and individuals may recommend changes by writing via the chain of command to: Commandant (CG-113); ATTN: Office of Safety and Environmental Health; U S Coast Guard Stop 7902; 2703 Martin Luther King Jr Ave SE; Washington, DC 20593-7902.

ERICA G. SCHWARTZ /s/
Rear Admiral, U. S. Coast Guard
Director of Health, Safety and Work-Life

RECORD OF CHANGES			
CHANGE NUMBER	DATE OF CHANGE	DATE ENTERED	BY WHOM ENTERED

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CHAPTER 1 INTRODUCTION

References:

(a) Executive Order 12196, as amended, "Occupational Safety and Health (OSH) Programs for Federal Employees"
(b) Public Law 91-596, Occupational Safety and Health Act of 1970 (OSHA Act)
(c) 29 U.S.C. § 651 et seq, 29 C.F.R. §§ 1900-2400
(d) Title 29 CFR § 1960, "Basic Program Elements for Federal Employee Occupational Safety and Health (OSH) Programs and Related Matters"
(e) Risk Management (RM), COMDTINST 3500.3 (series)

A. Purpose. Per References (a) through (e), this Manual promulgates Safety and Environmental Health (SEH) policies, support functions, program standards and broad guidance to develop the Coast Guard's Safety and Health program.

B. Enclosure. Enclosure (1) contains a list of acronyms used in this Manual.

C. Application. All Coast Guard members have a personal responsibility for managing risks associated with their individual activities on and off duty, thereby safeguarding themselves, their families and fellow workers from harm. Relevant Chapters in this Manual summarize additional implementation details. Overall SEH standards and guidelines in this Manual apply to the following personnel and facilities:

1. Active Duty. Coast Guard and Department of Defense (DoD) active duty military personnel and U. S. Public Health Service Officers detailed to the Coast Guard, on and off-duty.

2. Civilians. Coast Guard appropriated and non-appropriated fund civilian personnel, on-duty and/or on Coast Guard property.

3. Reserve Personnel. Coast Guard Reserve personnel on active duty, active duty for training or inactive duty for training or en route to any of the above.

4. Facilities and Aircraft. All Coast Guard afloat and ashore facilities and aircraft.

5. Auxiliary Personnel. Coast Guard Auxiliary personnel and facilities under orders.

6. Dependents. Dependents of Coast Guard military personnel on Coast Guard owned or leased property.

7. Non-Appropriated Fund Activities and Facilities.

8. Contractors Performing Coast Guard Work on Government Facilities. Contractors must provide a safe working environment for their employees and comply with Occupational Safety and Health Administration (OSHA) regulations. Per References (b) and (c) the Coast Guard assumes administrative responsibility for its facilities and must take reasonable steps to correct or direct correction of, known hazards.

D. Authorities. The Coast Guard and Coast Guard personnel are generally subject to Executive Orders; Federal Laws, regulations and directives; and certain state and local laws and ordinances.

1. Civilian. References (a) through (d) apply to Coast Guard civilian employees and to equipment, systems and operations comparable to those used in the private sector. Examples include vessels, aircraft and vehicle repair, overhaul, and modification; construction; supply services; civil engineering; medical services and office work. They apply to all working conditions of Coast Guard civilian employees except those involving uniquely military equipment, systems, and operations.

2. Military. Coast Guard military personnel and units engaged in uniquely military operations are exempted from OSHA standards by Reference (d). In all other instances, personnel and units must comply with and enforce OSHA standards where practicable or use alternate Occupational Safety and Health (OSH) standards that are as stringent as OSHA standards.

3. Federal Authority. OSHA inspectors have the authority to conduct announced or unannounced inspections and evaluations at Coast Guard sites employing civilian personnel engaged in other than uniquely military activities. Except for uniquely military workplaces and operations or those where only military personnel are employed, OSHA's inspectors have authority to:

   a. Enter, without delay, during regular work hours, any building, installation, facility construction site, or other area, workplace or environment where Coast Guard civilian employees or contract employees work.

   b. Inspect and investigate, during regular working hours and at other reasonable times, all pertinent conditions, structures, machines, devices, equipment and materials.

   c. Privately question any civilian employee, any supervisory employee and/or any official in charge.

   d. Formally report on unsafe conditions encountered by civilian employees.

4. State Authority. State level OSHA inspectors are generally not permitted access to Coast Guard work places, regardless of their classification as militarily unique. Table 1-1: Coast Guard Workspaces below summarizes federal and state access and authority guidelines:

OSHA Representative	Contractor	Civilian	Exclusively Military
Federal OSH Inspectors	**Yes [1,2]**	**Yes [1,2]**	**No**
State OSH Inspectors	**No**	**No**	**No**

NOTES

1. Cutters and boats must be in port; the Coast Guard does not transport federal OSHA representatives to vessels underway.
2. Federal or State OSHA representatives have no jurisdiction over militarily unique operations and are not authorized to inspect workplaces or operations for compliance with standards implementing 42 U.S.C. § 172 (explosive safety).

Table 1-1: Coast Guard Workspaces

5. Employee Rights. Reference (d) guarantees civilian employees and employee representatives the following rights.

   a. Access. Access to copies of Coast Guard standards, procedures and injury and illness statistics.

   b. Reporting. Right to report unsafe or unhealthy working conditions to appropriate officials and request an inspection of such workplace. Reports can be made in writing, electronically or by phone through the chain of command and are treated as anonymous. Requests for inspections must be prioritized based on the criticality of the safety and environment concerns. Express that criticality in the form of a Risk Assessment Code (RAC). Priority for response is as follows:

      RAC 1 – Within 24 hours for conditions that pose imminent danger,

      RAC 2 – Within 3 working days for conditions that pose potentially serious safety and health concerns, and

      RAC 3 – Within 20 working days for conditions that pose less than serious safety and health concerns.

      RAC 4 – No prescribed timeline for conditions that pose a minimal safety and health concern and may represent best practices.

   c. Assistance. Right to assist in conducting safety and health inspections.

   d. Appeal in the Coast Guard. Right to appeal, through the chain of command to the Deputy Commandant for Mission Support (DCMS) who is the Coast Guard's Designated Safety and Health Official (DSHO), and ultimately to the Commandant, through the Vice Commandant (VCG), if the employee disagrees with the disposition of unsafe or unhealthful conditions.

   e. Appeal to the Federal Government. Right to appeal to the Office of Federal Agency Safety and Health Programs, OSHA, Department of Labor, 200 Constitution Avenue,

NW, Washington, DC 20210, if all means of resolving an alleged unsafe or unhealthful condition within the Coast Guard have been exhausted.

f. Protection. Right to be protected from discrimination, restraint, interference, coercion, or reprisal as a result of participation in safety and environmental health assessment processes.

E. Safety and Environmental Health Program Management. The Coast Guard can be characterized as migrating to increasingly diverse and complex systems to meet operational demands. The rapid increase in volume and variety of operations challenges current safety strategies and practices. To meet these challenges head-on, the Coast Guard must adopt proven management strategies to institute and oversee safety efforts. Just as businesses use management systems to coordinate activities to maintain competitiveness and viability, the Coast Guard is adopting Safety Management System (SMS) principles described below to enhance Coast Guard safety program value.

1. Safety Management System (SMS). SMS is the application of specific technical and managerial skills in a systematic, forward-looking manner to proactively identify and control hazards. The goal of the SMS is to maximize mission effectiveness by mitigating hazards to manage risk to acceptable levels and prevent mishaps. SMS is comprised of four components: Safety Policy, Safety Risk Management, Safety Assurance, and Safety Promotion. Figure 1-1 depicts the SMS Framework and the interaction of the four components. While each component emphasizes specific functional requirements, stakeholders within the components interact to capitalize and integrate information from component activities into the overall SMS. In other words, actions within any component influence activities in other components.

2. SMS Framework. The SMS framework provides a systematic and systemic process for conducting, coordinating, and managing safety activities to ensure the safety enterprise integrates all SMS component-level activities.

a. Safety Policy Component. This component establishes senior leadership's and management's commitment and expectations to continually improve safety and defines the methods, processes, and organizational structure needed to meet safety goals. The Coast Guard's safety policy statement is included in Chapter 1, Paragraph G.

b. Safety Risk Management (RM) Component. Risk is inherent in all tasks, training, missions, operations, and in personal activities no matter how routine. RM is a systems-oriented process to identify, assess and control hazards to manage risk associated with any activity. Reference (e) provides the formal guidance, processes, and procedures to implement RM. The RM process consists of five steps: (1) Identify Hazards, 2) Assess Hazards, 3) Develop Controls and Make Decisions, 4) Implement Controls, and 5) Supervise and Evaluate Controls) that are applied. These steps are applied continuously throughout any activity.

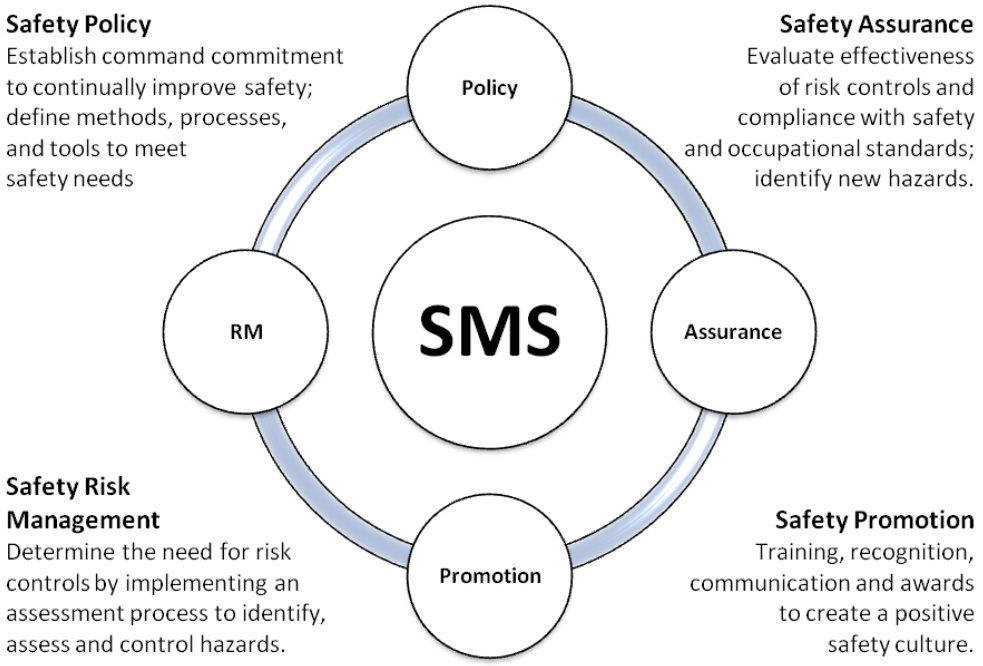

Figure 1-1: Safety Management System (SMS) Framework

c. Safety Assurance Component. This component evaluates the continued effectiveness of implemented risk control strategies and supports the identification of new hazards in order to ensure continuous improvement and effective management of change. Typical sources of information for these evaluations are audits, safety climate surveys, hazard reporting, incident and mishap analysis, crew endurance management, operational hazard analysis, human factors councils and human factors boards, and anonymous reporting.

d. Safety Promotion Component. This component focuses on training, communication, recognition for successes, incentives and other actions to create a positive safety culture. The command must establish a clear safety message and achievable goals to create a positive command climate. These actions begin with the free flow of safety information and hazard reporting at all levels of the unit, and recognition for commitment to safety awareness and mishap prevention. Safety committees and councils are excellent venues for promoting safety and are further addressed in Chapter 5. No SMS can be entirely successful without safety promotion activity that is essential for establishing the foundation for safety culture and enhancing safety practices.

F. Safety Culture. Successful safety cultures must contain the following elements.

1. Reporting Culture. Reporting culture refers to a climate where people are encouraged, prepared and equipped to report hazards, errors and near-misses.

2. Learning Culture. Learning culture refers to using safety information systems to analyze and develop accurate conclusions regarding hazard exposure and safety.

3. Just Culture. Just culture refers to an atmosphere of trust where people willingly and freely provide safety-related information without fear of reprisal. Clear lines exist and are understood between acceptable and unacceptable behavior. Personnel by their human nature make errors. Just culture recognizes this fact and encourages appropriate responses to these human errors.

4. Informed Culture. Informed culture refers to safety system managers having accurate and current knowledge about factors (human, technical, organizational, and environmental) that determine safety of the system.

5. Flexible Culture. Flexible culture refers to the organization reconfiguring its hierarchy as necessary to adapt during high-tempo or extraordinary hazard exposure, and recognizing the hazard associated with normalized deviation.

G. Safety and Environmental Health Policy Statement. The cornerstone to a successful safety program is clear and concise guidance regarding expectations and responsibilities for identifying, assessing, monitoring, and promoting safety practices. This guidance begins with senior leadership vision and reflected at the unit level by command policy. Commands are encouraged to develop a Unit Safety Policy to achieve the vision articulated in the Coast Guard SEH policy, that states:

The Coast Guard's overarching SEH policy is to provide personnel a safe and healthy workplace and to protect the public from risk of death, injury, illness, or property damage as a result of Coast Guard activities. Employees at all levels are responsible and accountable for their own safety, the safety of their co-workers, and the general public. To accomplish this, the Coast Guard maintains an effective and comprehensive safety and environmental health program that is consistent with federal occupational safety and environmental health standards and meets the requirements of the SMS program.

While we cannot remove all risk from our operations, we must strive to reduce hazard exposure to acceptable levels. We must collectively recognize the level of risk that is acceptable; warranted risk that balances the degree of reward of successful mission completion with potential adverse consequences. To achieve this, we must embrace the principles of risk management and leverage existing risk assessment tools to identify and mitigate hazard exposure. We must learn from errors and mistakes; this is only possible in an environment where members are encouraged to report hazards and confident that reporting will not result in reprisal or negative consequences. Without open reporting, we miss opportunities to correct deficiencies that when left unchecked, may result in catastrophic failures or loss of life. We grow our safety culture and build mutual trust when peers, mentors, and leaders openly discuss errors and coach at-risk behavior.

Safety is a team effort, and every member is responsible and accountable for identifying and reporting hazards, and managing risk both on and off duty. These responsibilities cannot be delegated and must not be compromised.

CHAPTER 2 SAFETY AND ENVIRONMENTAL HEALTH STANDARDS AND RESPONSIBILITIES

References:

(a) Executive Order 12196, as amended, "Occupational Safety and Health (OSH) Programs for Federal Employees"
(b) Title 29 CFR §1960, "Basic Program Elements for Federal Employee Occupational Safety and Health (OSH) Programs and Related Matters"
(c) Public Law 91-596, Occupational Safety and Health Act of 1970 (OSH Act), and 29 U.S.C., §651 et seq, Title 29 CFR §§1900 to 2400
(d) Deputy Commandant for Mission Support (DCMS) Engineering Technical Authority (ETA) Policy, COMDTINST 5402.4 (series)
(e) Risk Management (RM), COMDTINST 3500.3 (series)
(f) Title 29 U.S.C. §668, "Programs of Federal Agencies"
(g) Coast Guard Medical Manual, COMDTINST M6000.1 (series)

A. Discussion.

1. Background. References (a) and (b) constitute the foundational guidance to all agencies of the Executive Branch on how to properly implement the Occupational Safety and Health Act of 1970 (OSH Act), whose implementing regulations are contained in Reference (c). The Department of Homeland Security (DHS) Directive 066-01, "Safety and Health Programs," provides additional departmental level guidance for all DHS agencies.

2. Application. Coast Guard SEH requirements apply to all Coast Guard activities. Unless otherwise stated in specific safety and health program directives, Coast Guard employees serving at foreign posts are guided by the applicable (e.g. Department of Defense (DoD), Department of State (DOS)) safety and health program, applicable standards and appropriate agreements.

   a. Special Situations. Certain operations are subject to mandatory safety standards or rules that are derived from separate statutory authority, such as, Environmental Protection Agency (EPA) regulations relating to hazardous materials (HAZMAT) "generators" or Treatment/Disposal Facilities (TSDFs). Provided there is no substantive conflict, the application of these special functional standards does not exempt any workplace from other Coast Guard safety and health standards that address conditions not specifically covered by the special rules. Where substantive conflicts exist, notify Commandant (CG-113) of the conflict and proposed resolution.

   b. Joint Operations and Installations. Where Coast Guard employees and other DHS/DoD components or other federal agencies are located at the same federal installation, the Coast Guard manager in charge should consult with the other agencies to resolve conflicts or potential conflicts in SEH standards.

B. Program Requirements.

1. Standards.

   a. Coast Guard Instructions and Directives. Coast Guard SEH instructions and directives prescribe risk management (RM) processes, activities and standards and take precedence over all other standards. Coast Guard instructions often incorporate nationally recognized consensus standards as well as standards or instructions from other agencies (e.g., DoD), by reference. Whenever feasible, the more stringent standard applies.

   b. Regulatory. Federal laws and regulations govern the Coast Guard. In general, Coast Guard instructions and directives meet or exceed compliance with Federal laws and regulations. As discussed in Chapter 1, military personnel and uniquely military operations are exempted from OSHA jurisdiction by Reference (a). However, the Coast Guard must comply with applicable OSHA and other Federal agency standards, and adopted national consensus standards when conducting operations and functions comparable to those in private sector industries such as vessel; aircraft and vehicle repair; overhaul, modification; survey/inspection; construction; supply services; civil engineering; medical services; and office work. Specific parts of Reference (c) applicable to various SEH topics include, but are not limited to the following:

      (1) 29 C.F.R. § 1904 Recording and Reporting Occupational Injuries and Illnesses – applicable to mishaps and incident reporting.

      (2) 29 C.F.R. § 1910 Occupational Safety and Health Standards. This sets standards for General Industry –applicable to all Coast Guard units except those designated as performing uniquely military operations as described in Chapter 1 of this Manual.

      (3) 29 C.F.R. § 1915 Occupational Safety and Health Standards for Shipyard Employment – applicable to boat/cutter repairs where civilians or contractors are performing work. Coast Guard marine inspectors must also be aware of the provisions of this standard with respect to entering confined spaces in shipyard repair facilities.

      (4) 29 C.F.R. § 1926 Safety and Health Regulations for Construction – applicable to all Coast Guard construction projects and sites.

      (5) 29 C.F.R. § 1960 Basic Program Elements for Federal Employee Occupational Safety and Health (OSH) Programs and Related Matters.

      (6) Additional federal guidance is contained in the following:

         (a) 40 C.F.R., “Protection of Environment”

         (b) 41 C.F.R., Subtitle C, Chapter 102, “Federal Management Regulation”

         (c) 49 C.F.R., Subtitle B, Chapter I, Subchapter C, “Hazardous Materials Regulations”

c. Consensus Standards. Numerous associations, institutes and organizations publish consensus standards and codes designed to codify safe practices or designs within an industry or field of employment to serve as guidelines and standards of good practice. Examples of these organizations include the American National Standards Institute (ANSI), National Fire Protection Association (NFPA), American Conference of Governmental Industrial Hygienists (ACGIH), National Sanitation Foundation (NSF) International, the National Institute for Occupational Safety and Health (NIOSH) and others. The National Technology Transfer and Advancement Act of 1995 (Public Law 104-113) requires Federal agencies to adopt consensus standards where practicable. Consensus standards are mandatory, where practicable, when referenced in a Coast Guard directive, or if no Coast Guard directive or standard exists.

2. Tactics, Techniques and Procedures (TTP). TTPs are available to unit commanders and safety staff to establish and manage unit safety programs. TTPs are referenced in each applicable chapter.

3. Field Inputs to Program Revision. Field units are encouraged to provide constructive comments and suggestions to improve SEH RM processes. Forward recommendations through the chain of command to Chief, Health, Safety, Work-Life Service Center, Safety and Environmental Health Division (HSWL SC (se)).

4. Variances. Sometimes it is impossible to comply with an applicable SEH policy. Units must then request a policy variance through the chain of command and via HSWL SC (se) to Commandant (CG-113). Requests must describe why compliance is impossible and list actions taken to achieve the maximum degree of protection possible. For temporary situations, units must include the desired duration of the variance. Commandant (CG-113) can delegate approval of temporary variances to HSWL SC (se).

5. Alternate Standards. Sometimes it is possible to achieve equal or better protection through the application of procedures/criteria different than those specified by a particular SEH standard. Submit such proposed alternate standards through the chain of command and HSWL SC (se) via email to Commandant (CG-113).

6. Implementation. All levels of management must ensure SEH instructions, Standard Operating Procedures (SOP), and business processes are regularly reviewed, updated in a timely manner, and conform to Coast Guard safety and health policies contained in this Manual.

   a. Compliance. Implementing directives, procedures, best practices, and training must be understood and complied with by any affected employee and monitored/enforced by supervision. In cases of non-compliance, management should ensure immediate corrective action and consider disciplinary action against the offender(s) and the supervisor(s), as appropriate, for repeat or egregious violations.

   b. Acquisitions and Upgrades. Implementing directives, procedures, best practices, and training must be applied in the acquisition of goods and services and during the

design and construction stages of new or upgraded cutters, aircrafts, boats, and facilities

C. Responsibilities. The DHS has delegated Coast Guard SEH responsibilities to the Commandant. The Secretary has established the protection of employee health and safety as a top management priority within the Department. The Commandant fully supports the concept that a successful SEH program is one that reduces on and off-duty risks by promoting program visibility at every level of the organization. This Chapter describes the broad responsibilities at each level for implementing the Coast Guard's SEH Program. Follow-on Chapters provide additional subject-matter specific guidance as it pertains to an individual topic in the SEH portfolio.

1. Designated Agency Safety and Health Official (DASHO). The DHS Chief Administrative Officer (CAO) serves as DHS DASHO and is responsible for overall DHS Safety and Health Program, and:

   a. Establishes an organization with adequate budgets and staff to implement Title 29 U.S.Code., Chapter 15, "Occupational Safety and Health" Executive Order (EO) 12196, and 29 C.F.R. § 1960.

   b. Establishes procedures that ensure effective implementation of DHS safety and health program policies;

   c. Establishes goals and objectives for reducing and eliminating occupational accidents, injuries, and illnesses;

   d. Monitors the relationship between safety and workers' compensation programs with support from the Assistant Secretary for Health Affairs and the Chief Human Capital Officer;

   e. Establishes priorities with respect to the factors which cause occupational accidents, injuries and illnesses in the Department so that appropriate corrective actions can be taken; and

   f. Co-Chairs the DHS Safety, Health and Medical Council.

2. Designated Safety and Health Official (DSHO). The Deputy Commandant for Mission Support (DCMS) serves as the Coast Guard's DSHO; per DHS "Safety and Health Manual". The DSHO has the same responsibilities as the DASHO as described under 29 C.F.R. § 1960 within the Coast Guard; and establishes:

   a. An OSH policy and program to carry out all statutory requirements;

   b. An organization with adequate budgets and staffs to implement the OSH program at all levels;

   c. Goals and objectives for reducing and eliminating occupational accidents, injuries, and illnesses;

d. A set of procedures that ensures effective implementation of the policy and program considering the mission, size and organization of the component;

e. Plans and procedures for evaluating the OSH program effectiveness at all operational levels; and

f. Priorities with respect to the factors that cause occupational accidents, injuries, and illnesses in the component's workplaces so that appropriate corrective actions are taken.

3. Assistant Commandant for Human Resources (CG-1). The Assistant Commandant for Human Resources (CG-1) has Engineering Technical Authority (ETA) for Human Systems Integration (HSI) in accordance with Reference (d) and serves as the Warranting Officer for HSI. ETA applies across the systems engineering lifecycle from Requirements to Disposal. Assistant Commandant for Human Resources (CG-1) also serves as the Chair for the Coast Guard Safety and Occupational Health Council (CG-SOHC).

4. The Director, Health, Safety, and Work-Life (CG-11). The Director, Health, Safety and Work-Life serves as Director, Occupational Safety and Environmental Programs (OSEP), whose responsibilities include:

a. Assist the DSHO by providing direction and oversight of the safety and health program;

b. Serve as executive secretariat of the CG-SOHC;

c. Represent Coast Guard on the Joint Service Safety Council (JSSC) as the Service Safety Chief;

d. Serve as the Coast Guard member on the DHS Safety, Health, and Medical Council;

e. Provide professional medical supervision for medical services provided by or on behalf of the agency, including occupational clinical services;

f. Ensure required safety and health program policies are established; and

g. Ensure appropriate goals and objectives are established for reducing accidents, injuries, and illnesses.

5. Chief, Safety and Environmental Health (CG-113). Commandant (CG-113) is the Program Manager (PM) for the Coast Guard SEH and SMS, ensuring that SEH principles and best practices are incorporated into all aspects of personnel management, including, but not limited to: performance measures; position descriptions; pre-placement evaluations; health-related worker screening and physical qualification monitoring; and workers' injury, compensation, and disability management. Additional responsibilities include:

a. Provide staff support to the DCMS and the Director, Health, Safety and Work-life (CG-11) in managing the Coast Guard's SMS.

b. Ensure that SEH policies, procedures, standards and programs are aligned with the operational needs of the Coast Guard. Liaise with the operational community and other support programs to ensure that SEH issues are integrated into all decision-making processes.

c. Collaborate with the Assistant Commandant for Command, Control, Communications, Computers and Information Technology (CG-6) to develop, maintain, and promote innovative analysis methods, processes, technologies, and database management techniques to provide effective and adaptive capabilities to identify and mitigate workplace hazards to prevent accidents and injuries. Collaborate with the Assistant Commandant for Capability (CG-7) to develop and maintain risk management policies per Reference (e).

d. Develop analytical processes to identify and define leading indicators of safety culture deficits to create the foundation for more effective safety culture-enhancing practices. Safety culture elements are described in Chapter 1 of this Manual.

6. Chief, Human Systems Integration (HSI) Division (CG-1B3). Chief, Human Systems Integration Division (CG-1B3) executes The Assistant Commandant for Human Resources (CG-1) Engineering Technical Authority in accordance with Reference (d) and is the Deputy Warranting Officer for HSI. HSI addresses the human component of the systems engineering process to ensure systems are designed, produced, supported, fielded, and modernized through a complete and careful integration of the human component. HSI encompasses seven distinct but interrelated domains including: human factors engineering (HFE), manpower, personnel, performance support and training, occupational health and system safety, habitability, and personnel survivability design elements to be incorporated into the lifecycle development and management of Coast Guard systems.

a. System Safety and Residual Mishap Risk. The HSI domain of System Safety and Occupational Health is the systems engineering (SE) application of engineering and management principles, criteria, and techniques to achieve acceptable risk within the constraints of operational effectiveness and suitability, as well as programmatic performance, schedule, and cost throughout the system's lifecycle. It is an integral part of the SE process to remove hazards by design and specific activities are required throughout the different phases of the acquisition lifecycle to mitigate and document residual hazards. In fulfilling its System Safety responsibilities, Commandant (CG-1B3) must:

(1) Ensure that a qualified system safety person has been assigned per Department of the Navy Safety Program, SECNAVINST 5100.10k and Navy System Safety Program Policy, OPNAVINST 5100.24b. This safety person is typically referred to as the Program Principal for Safety (PFS). Ensure the PFS is identified in the Program's management structure. For programs that encompass multiple

systems, an overall PFS must be designated. The PFS must have direct access to the PM and must maintain a degree of independence from system development responsibilities.

(2) Apply and tailor Department of Defense Standard Practice: System Safety, MIL-STD-882 (series) as a standard practice for Coast Guard acquisitions.

(3) Assess known safety hazards and risks involved in legacy Coast Guard assets, and incorporate these "lessons learned" into design criteria and/or mishap risk mitigations for all Coast Guard acquisition programs. Prior to exposing people, equipment, or the environment to known system-related ESOH hazards, acquisitions PM must document that the associated risks are being managed by acquisition program and are being reported to the Component Acquisition Executive (CAE) for high risks, the Program Executive Officer level for serious risks, and the PM for medium and low risks as defined in Commandant (CG-9) SOP-#7.

(4) Upon implementation of all available RM control measures, ensure formal risk acceptance is completed prior to specific events, such as developmental and operational testing and fielding of prototypes to support urgent operational needs. In these cases, the risks to be accepted are for the hazards as configured in the system at that time and for the duration of the event (event risk). Formal risk acceptances also occur prior to fielding systems. The result is that a single hazard may require multiple formal acceptances as the system design evolves and events occur.

(5) Ensure that risks associated with hazards discovered for systems after fielding are formally accepted if the system is to remain in operation prior to full implementation of designated mitigation measures.

(6) Provide recommendations on Engineering Change Proposals (ECPs) and Time Compliance Technical Order (TCTOs), evaluating life-cycle costs, safety, regulations, operational availability and maintainability, training, and human factors.

(7) Promote applicable Coast Guard safety policy, standards, and regulations in the acquisition process to include system requirements, statements of work, technical specifications, and testing protocols.

(8) Closely coordinate with Commandant (CG-113):

(a) Hand-off from acquisition to sustainment of lead safety oversight responsibilities for Coast Guard acquisition programs. This occurs as a Coast Guard acquisition program nears Acquisition Decision Event -3 (ADE- 3 (Produce/Deploy/Support phase), but not later than ADE-4.

(b) Discuss strategies for gaining efficiencies in Coast Guard safety.

(c) Establish and maintain a collaborative effort and define terms of how to exchange information and collectively provide mutual support through the lifecycle of Coast Guard assets.

(d) Engage the CG-SOHC as issues arise that both programs collectively deem important enough to be addressed by the chain of command.

b. Engineering Controls. In fulfilling its system engineering responsibilities for hazards that cannot be eliminated through design, Commandant (CG-1B3) must seek to provide engineering controls to mitigate potential safety and health risks as discussed below:

(1) Review systems for potential safety, occupational health, and human factors engineering risks such as acute or chronic illness, injury, disability, or death to operators and maintainers. Safety and occupational health efforts enhance the job performance and productivity of personnel who operate, maintain, or support the system. Personnel safety and occupational health issues are predominantly associated with the use, maintenance, support, and demilitarization/disposal of the system.

(2) Apply system safety engineering techniques and hazard analyses (e.g., Failure Modes and Effects Analyses and Fault Tree Analyses) to identify safety risks and evaluate potential failure modes of the system, subsystems, operations, processes, equipment, and personnel.

(3) Identify methods for determining occupational safety and health risks including HAZMAT analyses and Health Hazard Assessments (HHA). The HHA focuses on identifying potential health impacts (e.g., chemical, physical, noise, biological, and ergonomic) throughout the system's lifecycle and assessing the degree of personnel exposure based on the potential routes of entry and the cause, magnitude, frequency, and duration of exposure. HSI addresses many areas, such as ergonomics, that overlap with safety and health.

(4) Reduce the potential for injuries, illnesses, or accidents as best managed through the integration of ESOH RM as part of the overall systems engineering risk management efforts, thereby achieving the goal to produce an inherently safe system with minimal operational safety and health requirements or restrictions.

7. Chief, Health Services (CG-112). Chief, Health Services (CG-112) provides medical support to Commandant (CG-113) and works jointly with Commandant (CG-113) to manage the Coast Guard's Occupational Medical Surveillance and Evaluation (OMSEP) program.

8. Commanding Officer, Health, Safety, and Work-Life Service Center (HSWL SC). HSWL SC has the following responsibilities:

a. Direct and provide professional oversight of all SEH support services.

b. Serve as Commandant (CG-11) designated lead independent agent for all SEH support services.

c. Direct and provide oversight for the HSWL SC (se).

d. Develop TTP to ensure compliance with this Manual and applicable Federal, State, and local regulations.

e. Administer the OMSEP in coordination with Commandant (CG-112) and Commandant (CG-113).

f. Direct and manage all field level SEH support through the detached Safety and Environmental Health Officers (SEHOs).

g. Serve as Course Manager (CM) for all SEH Class 'C' training courses; ensuring courses remain relevant to field unit safety supervisors by updating, revising or validating existing or planned curricula.

h. Manage field safety, occupational health and preventive medicine technical assistance for disaster and mobilization planning to ensure continuity of operations.

i. Develop and monitor workload indicators, (e.g., number of site visits, number of assistance surveys completed, expenditures, etc.) to best use SEH staff, funding, equipment and supplies.

j. Coordinate with Commandant (CG-113) to circulate SEH statistical information. Provide input for the Commandant (CG-113) annual OSHA agency report.

k. Publish an annual safety report in coordination with Commandant (CG-113) which highlights mishap trends, hazardous conditions, abatement activities, policy and procedure updates and lessons learned.

l. Maintain liaison with Headquarters, LANT and PAC Area, Forces Readiness Command, Director of Operational Logistics (DOL), district staffs, sector staffs and unit Commanding Officers (COs) to ensure the exchange of information relating to program requirements.

m. Manage the mishap analysis process for all Class C and Class D mishaps. Participate and support COMDT-level Mishap Analysis Boards (MABs) as requested by Commandant (CG-113).

n. Monitor and make recommendations to Commandant (CG-113) concerning all Class A and B mishaps.

o. Ensure that professional qualifications of officer, enlisted, and civilian staff are maintained through routine evaluation, and the identification of training and continuing education requirements.

p. Ensure complete documentation and development of data dictionaries for all SEH databases.

q. Plan, develop, and administer systems and processes for the delivery of SEH support services at the local level including Safety Mobile Assistance, Response and Training (SMART) Team visits and Health Risk Assessments (HRAs).

r. Manage and maintain Coast Guard wide SEH computer databases. Submit recommended changes via email to Commandant (CG-113) for approval.

s. Provide support for aviation ground safety programs. See Chapter 20 for additional details.

t. Manage the Shipboard Sanitation Control Program.

u. Manage the fire suppression, prevention, and protection program.

v. Manage the Coast Guard Fire Marshal.

w. Provide Operational Commanders with Incident Command System (ICS) Safety Officer Capability (SOFR) and technical safety services during contingency response operations.

x. Provide the DOL with SEHO capability during contingency response operations.

9. Area Commanders. Area Commanders ensure operations and programs throughout their chain of command are consistent with Coast Guard SEH directives and policies. Responsibilities include:

a. Ensure that immediate subordinate units implement effective SEH programs.

b. Establish Area Safety and Risk Management (SARM) councils with appropriate divisions and field representation meeting at least quarterly per Chapter 5 and Reference (f).

c. Request SEH support services from HSWL SC (se) staff.

d. Provide resources and/or advocate on behalf of subordinate field units to resolve emergent hazardous conditions.

10. District Commanders. District Commanders ensure operations and programs throughout their chain of command are consistent with Coast Guard SEH directives and policies. Duties include:

a. Ensure that immediate subordinate units implement effective SEH programs.

b. Establish District SARM councils with appropriate divisions and field representation meeting at least quarterly per Chapter 5 and Reference (f).

c. Request SEH support services from District SEHOs.

d. Provide resources and/or advocate on behalf of subordinate field units to resolve emergent hazardous conditions.

e. Request SOFR capability from the HSWL SC for own and subordinate unit Incident Management Teams.

11. Director of Operational Logistics (DOL). The DOL:

a. Requests SEHO support for DCMS contingency support operations.

b. Ensure configuration management for required/prescribed Personal Protective Equipment (PPE), based on identified hazards.

12. Sector Commanders. Sector Commanders implement SEH directives and policies consistent with this Manual and request support services from their respective regional SEHOs. Sector Commander's additional duties include:

a. Implement a Sector SEH program covering all subordinate units per this Manual.

b. Designate a Sector Safety Manager (SSM) in writing for each sector. Support staff is recommended.

c. Maintain a Mishap Response Plan (MRP) coordinated with host and tenant facilities, as needed. See Chapter 3 of this Manual for details.

d. Establish a Permanent Mishap Board (PMB). See Chapter 3 of this Manual for details.

e. Establish Sector and subordinate unit SEH training as outlined in this Manual.

f. Establish sector safety committees with appropriate departments and field representation meeting at least quarterly per Chapter 5 and Reference (f).

g. Establish specific hazard related programs and plans, applicable to sector units where the hazard exists, per guidance in this Manual, including, but not limited to: respiratory protection, heat stress, hearing conservation, confined space entry, working at heights (fall protection), asbestos, bloodborne pathogens, lockout/tag-out, hazard communication, and motor vehicle. Conduct hazard assessments and coordinate SEH support services with regional SEHOs. See Chapter 4 of this Manual for additional details.

h. Conduct hazard assessments and provide all appropriate PPE.

i. Coordinate SEH support services with their regional SEHOs.

j. Conduct annual formal safety inspections (or more frequent if required) of the Sector and subordinate units using the Unit Safety Assessment Tool (USAT).

k. Investigate and report internal Sector mishaps and ensure subordinate unit mishaps are investigated and reported per Chapter 3 of this Manual.

l. Post hazardous condition notifications until abatement actions have been completed.

m. Ensure that hazardous conditions are abated or controlled. Imminent danger conditions must be corrected immediately.

n. Purchase/Obtain, maintain and require the use of appropriate protective and safety equipment per Chapter 7 of this Manual.

o. Ensure employees are provided adequate training on the hazards and operations of their work processes and equipment.

p. Assign other duties as necessary to include:

(1) OMSEP Coordinator per Reference (g), Chapter 12 – Occupational Medical Surveillance and Surveillance and Evaluation Program (OMSEP).

(2) Respiratory Protection Manager (RPM) per Chapter 9 of this Manual.

(3) Asbestos Program Manager (APM) per Chapter 12 of this Manual.

q. Implement other specialized programs, as applicable, and detailed in this Manual.

r. Sector Commands or units with aviation assets and Air Stations must comply with the Aviation Safety Organization requirements detailed in Chapter 20 of this Manual.

13. Commanding Officers/Officers-in-Charge (COs/OICs). All COs/OICs throughout the Coast Guard must implement SEH directives and policies consistent with this Manual per Reference (b). Support services can be requested from their respective regional SEHOs as needed. Other duties include:

a. Implement SEH program requirements covering all subordinate units, if applicable, per this Manual.

b. Appoint an Assistant Safety Officer (ASO) to assist the unit Executive Officer/Executive Petty Officer (XO/XPO) in implementing the unit SEH program.

c. Maintain a MRP coordinated with host and tenant facilities, as needed.

d. Establish a PMB. Ensure employees are provided adequate training on the hazards and operations of their work processes and equipment.

e. Establish safety committees with appropriate divisions and field representation meeting at least quarterly per Chapter 5 of this Manual and Reference (f).

f. Establish specific hazard related programs and plans, applicable to subunits where the hazard exists, per guidance in this Manual, including, but not limited to: personal protective equipment, thermal stress, respiratory protection, hearing conservation, hazard communication, asbestos, confined space entry, lockout/ tag-out, bloodborne pathogens, motor vehicle, fire protection, laser hazards, fall protection and lead hazards. Conduct hazard assessments and coordinate SEH support services with district SEHOs. See Chapter 4 for additional details.

g. Conduct annual formal safety inspections (or more frequent if required) of the unit using USAT.

h. Investigate and report command mishaps and ensure subordinate unit mishaps are investigated, and reported per Chapter 3 of this Manual.

i. Post hazardous condition notifications until abatement actions have been completed.

j. Ensure that hazardous conditions are abated or controlled. Imminent danger conditions must be corrected immediately.

k. Purchase, maintain and require the use of appropriate protective and safety equipment per Chapter 7 of this Manual.

l. Implement other specialized SEH programs, as applicable, per guidance in this Manual.

m. Assign other duties as necessary to include:

(1) OMSEP Coordinator per Reference (g), Chapter 12 – Occupational Medical Surveillance and Evaluation Program (OMSEP).

(2) Respiratory Protection Manager per Chapter 9 of this Manual.

(3) Asbestos Program Manager per Chapter 12 of this Manual.

(4) Lead Hazard Control Manager per Chapter 27 of this Manual.

14. Safety Officer (SO). To underscore the importance of the command responsibility for safety, the unit's second in command (i.e. Deputy, XO/XPO) is the designated SO for that unit. The SO implements the unit SEH program per this Manual.

15. Sector Safety Manager (SSM). Sector Commanders or COs of shore units must appoint a SSM in writing.

a. The SSM assists the unit SO (e.g. XO, Deputy, and XPO) with day-to-day management and oversight of the Sector's SEH program.

a. The SSM shall provide oversight and evaluation of the Assistant Safety Officer (ASO) program at each unit to gain insight as well as provide assistance into program

areas as needed. The SSMs must comply with SEH assessment, prevention and hazard reporting requirements are detailed in Chapter 4 of this Manual.

16. Assistant Safety Officer (ASO). ASOs (Formerly referred to as the Unit Safety Coordinator) are assigned by each subordinate units (including assigned cutters) and Sectors.

    a. The ASO works directly with the designated SO to implement the unit's SEH program.

    b. The ASO should notify the SSM regarding any significant safety concerns; and work with the SEHO and SSM during safety audits, reporting findings to the SSM.

17. Flight Safety Officer. Each aviation command must have an assigned or appointed Flight Safety Officer (FSO) to advise and assist the CO/SO in matters pertaining to aviation safety, and particularly to manage the command's RM processes. The FSO shares responsibility for SEH program oversight with the Ground Safety Officer (GSO). Specific aviation safety related duties and requirements are described in Chapter 20 of this Manual.

18. Shop Safety Coordinator (SSC). Commands are encouraged to assign safety coordinators as needed for individual shop spaces. The SSCs provide safety leadership; monitor safety practices; and serve as safety role models. They do not necessarily have to be the senior person in the shop. Selection of the proper individuals for safety positions is critical to the success of the safety program. Individuals must be open to new ideas and easily approachable by both junior and senior personnel. Additional safety training courses for SSCs are highly recommended and can be coordinated through HSWL SC (se).

19. First Line Managers and Supervisors. First line managers and supervisors must:

    a. Apply applicable RM where appropriate for both on and off-duty uniformed personnel and on duty civilian personnel.

    b. Seek additional guidance from superiors in the chain of command when risks associated with a mission seem unnecessary or exceed the commander's intent.

    c. Arrange training on the hazards and operations of their work processes and equipment.

    d. Conduct a periodic safety walk-through of work areas, at least weekly to observe work practices and identify hazards.

    e. Ensure compliance with OSH standards, regulations, and applicable directives.

    f. Initiate proper action to correct hazards and ensure compliance with safety practices.

    g. Ensure prompt investigation and reporting of all accidents involving employees and all accidents occurring in employee work areas.

20. Individual Members and Employees. Individual members and employees must:

    a. Apply applicable RM techniques while on duty (civilian and uniformed personnel) and off duty (uniformed personnel only).

    b. Seek additional guidance from supervisors when risks associated with a mission seem unnecessary or exceed the commander's intent.

    c. Comply with applicable federal and Coast Guard SEH standards and regulations and orders applicable to their individual actions and conduct.

    d. Perform duties in the safest possible manner and encourage fellow employees to do likewise.

    e. Report unsafe or unhealthful conditions and practices to their supervisor or SO and if appropriate, request an inspection of the workplace per Chapter 4 of this Manual.

    f. Where required, wear and properly maintain personal protective clothing and equipment.

CHAPTER 3 MISHAP RESPONSE

References:

(a) Mishap Response and Reporting Tactics, Techniques, and Procedures (TTP), CGTTP 1-03.2
(b) Coast Guard Medical Manual, COMDTINST M6000.1 (series)
(c) 29 C.F.R. § 1904, Recording and Reporting Occupational Injuries and Illness
(d) Auxiliary Operations Policy Manual, COMDTINST M16798.3 (series)
(e) Auxiliary Manual, COMDTINST M16790.1 (series)
(f) Coast Guard Air Operations Manual, COMDTINST M3710.1 (series)
(g) Military Personnel Casualties and Decedent Affairs, COMDTINST M1770.9 (series)
(h) Critical Incident Stress Management (CISM), COMDTINST 1754.3 (series)
(i) Administrative Investigations Manual, COMDTINST M5830.1 (series)
(j) Major Incident Investigations Manual, COMDTINST M5830.4 (series)
(k) Coast Guard External Affairs Manual, COMDTINST M5700.13 (series)
(l) Privacy Incident Response, Notification, and Reporting Procedures for Personally Identifiable Information (PII), COMDTINST 5260.5 (series)
(m) Department of Defense Human Factors Analysis Classification System (DoD HFACS)
(n) Classified Information Management Program, COMDTINST M5510.23 (series)
(o) The Coast Guard Freedom of Information (FOIA) and Privacy Acts Manual, COMDTINST M5260.3 (series)
(p) Officer Accessions, Evaluations, and Promotions, COMDTINST M1000.3 (series)
(q) Participation in a Military or Civil Aircraft Accident Safety Investigation, COMDTINST 5100.28 (series)
(r) 49 U.S.C. § 1132, "Civil Aircraft Accident Investigations"
(s) Military Personnel Data Records (PDR) System, COMDTINST M1080.10 (series)
(t) Information and Life Cycle Management Manual, COMDTINST M5212.12 (series)
(u) National Archives and Record Administration Record Schedule N1- 330-10-003 Service Treatment Records (STR), February 18, 2010
(v) U.S Coast Guard Boat Operations and Training (BOAT) Manual, Volume 1, COMDTINST M16114.32 (series)
(w) Accident Investigation, Reporting, and Record Keeping, DODINST 6055.07

A. Discussion. This Chapter establishes policy requirements for mishap response, notification, analysis and reporting of Coast Guard mishaps.

1. Application. The provisions of this Chapter apply to commanders, managers, supervisors, and safety staffs at all levels; all persons who conduct Coast Guard mishap analysis; and all personnel who handle safety mishap reports. Failure to observe the prohibitions and mandatory provisions of this Chapter by military personnel may be a violation of Article 92, Uniform Code of Military Justice (UCMJ). Other UCMJ articles may apply to military personnel who use a privileged safety report as an implement to punish a military member. Violations by civilian employees may result in administrative disciplinary actions without regard to applicable criminal or civil sanctions for violations of related laws.

2. References. Mishap response and reporting guidelines are provided in Reference (a), which is available on the CGPORTAL (type in key words: HSWL TTP). Additional guidance is provided by HSWL SC (se) and Commandant (CG-113). This Chapter contains policy requirements supported by relevant law, rules, policies and guidance found in References (b) through (w).

B. Mishap Assessment. This Section provides information, definitions and requirements necessary to assess possible mishap events and determine the appropriate level of response, analysis and reporting activity.

1. Reportable Mishaps. A Coast Guard mishap is defined as any unplanned, unexpected or unintentional event that causes injury, occupational illness, death, material loss or damage. The unit or command in-charge of the operation/mission at the time of the mishap must submit the mishap report. The following mishap events must be reported per the requirements of this Chapter:

a. Injuries and Occupational Illnesses. Injuries or occupational illness that result in any of the following: death, days away from work, restricted duty, transfer to another job, medical treatment beyond simple first aid, or loss of consciousness that also meet one of the following criteria:

(1) All Coast Guard Personnel.

(a) Work-related musculoskeletal disorders.

(b) Food borne illnesses associated with consumption of food prepared by a Coast Guard sponsored food service provider.

(c) Work-related needle stick injuries and cuts from sharp objects that are contaminated with another person's blood or other potentially infectious material.

(d) Acute (immediate) or chronic (long-term) exposures to suspected hazardous substances in the workplace including physical, chemical, biological or radiological agents that result in injury or illness including any the following:

[1] Chronic exposures that result in a condition requiring medical attention per Reference (b). A mishap report must be initiated upon first diagnosis. An example of such an event for an occupational illness is a permanent standard threshold shift seen on an audiogram.

[2] Acute exposures that result in an acute health hazard exposure examination per Reference (b).

[3] Acute direct bodily contact exposures to Bloodborne Pathogens (BBP) without a functional PPE barrier during the performance of operational duties.

[4] Occupational exposures to active tuberculosis that result in subsequent tuberculosis infections. As defined in 29 C.F.R. § 1910.1030, Occupational Exposure means reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

[5] Acute health hazard exposure examinations and other reporting and surveillance requirements as detailed in Reference (b).

[6] Exposures that are discovered during medical examinations that are part of the deployment demobilization process for responders (Active Duty, Auxiliary, Reserve, or Civilians). This examination protocol documents potential exposures during deployment. Prior to demobilization, responders must also complete a demobilization questionnaire to capture potential exposures and then schedule a post-deployment exam with their home unit Primary Care Manager as directed in the demobilization process.

(2) Active Duty. Coast Guard active duty military personnel who are killed, injured, missing, or missing in action while on- or off-duty, if it results in days away from work, restricted duty, transfer to another job, medical treatment beyond first aid, or loss of consciousness.

(3) Coast Guard Civilians.

(a) Coast Guard civilian personnel who are killed, injured, missing, or missing in action while performing Coast Guard work on or off Coast Guard property if it also results in days away from work, restricted duty, transfer to another job, medical treatment beyond first aid, or loss of consciousness.

(b) Any occupational injury or illness reported on an OSHA Form 301 found at https://www.osha.gov/recordkeeping/RKforms.html under Reference (c) or on Office of Workers' Compensation Programs – Division of Federal Employees Compensation, Forms CA-1 and CA-2 found at http://www.dol.gov under "Forms" and then "Forms by Form Number" (per 20 C.F.R. §§ 10, et seq.) constitutes a reportable mishap. Reports of civilian injuries must also be entered into the appropriate Coast Guard electronic mishap reporting database.

(4) Reservists. Coast Guard reserve personnel serving in either an active duty status or drilling in an inactive duty status or en route to either type of duty, who are killed, injured, missing, or missing in action either on or off-duty that result in: days away from work, restricted duty, transfer to another job, medical treatment beyond first aid, or loss of consciousness.

(5) Auxiliarists. Coast Guard Auxiliary personnel injured, missing, or missing in action while assigned to duty. See References (d) and (e).

(6) Contractors. Coast Guard contractor mishaps in which the contractor employee is under the direct supervision of Coast Guard personnel. Report any damage or injury that can be directly linked to Coast Guard processes, personnel, or equipment.

(7) Visitors and Non-Coast Guard Personnel. Non-Coast Guard personnel and visitors who are killed, injured beyond first aid or have a loss of consciousness or are missing while on Coast Guard property, including Coast Guard housing. Non-Coast Guard civilian personnel injured as a result of Coast Guard operations.

(8) Coast Guard Exchange (CGX) Employees. CGX personnel who are killed or injured beyond first aid or have a loss of consciousness while performing CGX work or incidents that would fall under Paragraph B.1.a.(3) above.

b. Property Damage. Property damage that results in:

(1) Damage to Coast Guard shore or afloat assets equal to or greater than $5,000.00.

(2) Any damage to Coast Guard aviation assets.

(3) Personal property owned by Auxiliary units or Auxiliarists assigned to duty that is damaged in the course of their duty. See References (d) and (e).

2. Other Reportable Events. To reveal hazardous trends and underscore lessons learned following specific events that do not meet the reporting criteria described in Paragraph B.1, the following events must be reported as Class D mishaps. These events must be reported to prevent recurrence of similar events that could result in much greater injury or damage. Other reportable events specific to aviation, afloat, ashore and motor-vehicle operations are described in the Paragraphs B.3 – B.6.

a. Fires aboard any Coast Guard asset or facility, including incipient stage events (e.g., electrical short, initial smoldering, etc.) that do not result in injury, illness, or property damage.

b. Pressurized fuel/oil leak.

c. Electrical shocks while performing work on Coast Guard equipment or while on a Coast Guard asset or facility.

d. Unintentional discharge of a Coast Guard weapon that was determined to be either accidental or negligent. Additional reporting requirements are detailed in the Ordnance Manual, COMDTINST M8000.2 (series) (FOUO).

e. Discharge of a weapon while off-duty that results in the need for medical attention beyond first aid. Unless that weapon is provided under and used by a Reserve member in the performance of their civilian duties (e.g. law enforcement officer or armed security guard).

f. Unintentional or collateral damage or injury that occurs as a result of actions executed by Coast Guard personnel or assets during an authorized law enforcement action (e.g., warning shots or disabling fire). Commandant (CG-113), in consultation with the operational commander, will determine the mishap classification and appropriate level of safety analysis (e.g., PMB or MAB).

g. Ejections from a Coast Guard vessel resulting in persons in the water.

h. A person falls overboard from a vessel, pier, structure, facility or supporting equipment when performing a Coast Guard mission.

i. Light Amplification by Stimulated Emission of Radiation (LASER/laser). Events where Coast Guard personnel or assets encounter a laser strike originating from a Coast Guard/DoD/Federal/State or local agency source. These laser exposure events, including those that do not result in personnel injury must be reported as Class D mishap (unless personnel injury severity warrants higher classification). For laser strikes originating from unknown sources, see Paragraph B.7.y. See Chapter 23, Paragraph B.2.k for law enforcement reporting requirements.

j. Any events that identify possible deficiencies in current operational policy or procedures; allowances, outfits or PPE; or platform configuration or performance.

3. Aviation-Specific Reportable Events. The following events that do not meet the reporting criteria described in Paragraph B.1 above must be reported as Aviation Class D Flight-Related mishaps.

a. Aeromedical Event. A psychological, physiological, or pathological condition occurring to a crewmember when intent for flight exists and the condition results in interference with a crewmember's duties. This includes flight delays, diverts or aborts due to conditions affecting a crewmember or passenger (e.g., airsickness, vertigo, suspected or actual hypoxia, toxic exposures, decompression events, preexisting illness, spatial disorientation, other in-flight incapacitation or injury, etc.).

b. Precautionary or Forced Landing (Aborted Flight or Takeoff). Any precautionary landing, aborted takeoff, or failure to get airborne because conditions or circumstances make further flight inappropriate or impossible must be reported, with the following considerations.

(1) Review Paragraphs B.7.a – B.7.y to determine if it is a non-reportable event.

(2) Do not report mission aborts or failed dispatches (e.g., breaking in the chocks) if they occur prior to application of takeoff power or collective pitch for the purpose of taking off under this category. These events may remain reportable due to other circumstances, but they do not meet the criteria under the "aborted flight" category.

(3) Precautionary landings without confirmed failure, malfunction, or damage (e.g., suspected blade strike, warning lights, bird-strike, etc.) and no additional damage occurs during landing are not reportable.

(4) If additional circumstances surrounding the event can be of value to the fleet, such as capturing fleet-wide trends or passing on lessons learned, the event should be reported and shared with the fleet through Administrative Official Information Exchange (Admin OIX).

c. Power Loss. Any engine flameout, failure, substantial loss of power or required engine shutdown, regardless of successful restart. Unintentional shutdowns or shutdowns of the incorrect engine are reportable, regardless of restart. Intentional engine shutdowns not associated with a related emergency procedure (e.g., training, test flight) are not reportable, unless the engine fails to restart or other circumstances surrounding the event can be of value to the fleet.

d. Propeller, Rotor or Engine Wash. Damage or injury resulting from propeller backwash, rotor down wash, or engine exhaust.

e. Weather Related Mishaps. In-flight encounters with natural hazards such as turbulence, lightning, volcanic ash, wind storms, severe static discharge (hoisting), or other weather anomalies.

f. Jettison. Unintentional jettisons of a sling load or other external stores, or any jettison resulting in damage or injury.

g. Hoist Shear. Any intentional or unintentional hoist shear.

h. Equipment Drops. Equipment drops (planned or inadvertent) resulting in injury or property damage. If the drop was intentional, but other aspects of the event can be of value to the community, it should be reported. Inadvertent equipment drops not resulting in damage or injury should also be reported if certain aspects of the event provide learning value to the community.

i. Emergency Breakaway. Report any emergency breakaway during Helicopter in-Flight Refueling (HIFR) unless intentionally initiated for training purposes and no damage or injury occurs.

j. Things Falling Off Aircraft (TFOA). Any object unintentionally dropped or falling from an aircraft must be reported regardless of damage or injury.

k. Midair Collisions and Near Midair Collisions. Reference (f) requires special reporting procedures for midair and serious near midair collisions in addition to the normal aviation mishap reporting requirements.

(1) Report all midair collisions, regardless of the amount of injury or damage, to Commandant (CG-1131) and National Command Center via telephone. A preliminary aviation mishap message must be submitted within 12 hours.

(2) A near midair collision is an incident where the possibility of collision results from an aircraft passing within 500 feet of another aircraft (excluding normal formation or air intercept flights), or a pilot or crewmember of either aircraft reported that a possible collision hazard occurred between two or more aircraft (including Unmanned Aircraft Systems (UAS)). Report near midair events with no Coast Guard aircraft damage and no resulting injuries aboard Coast Guard aircraft as Class D Aviation Flight-Related mishaps.

(3) A serious near midair collision, as defined Reference (f), is an event where the possibility of collision occurred and either aircraft took evasive action or bodily injury occurred. Report injuries aboard Coast Guard aircraft as Aviation Flight mishaps and classify as described under Paragraph B.9.

(4) Report events involving a Traffic Collision Avoidance System (TCAS) alert that results in taking evasive action as Class D Aviation Flight-Related mishaps.

4. Afloat-Specific Reportable Events. Report events that do not always meet the criteria of a reportable event but can be used as indicators of possible trends or can teach valuable lessons. These events usually result in costs that are below the reportable threshold and do not involve injury or illness. They must be reported to prevent similar events from becoming actual mishaps. Reportable afloat mishaps include:

   a. Capsizing, including non-Coast Guard vessels being towed by Coast Guard vessels.

   b. Vessel rollovers and knockdowns (in excess of 90 degrees from an even keel).

   c. Allisions or collisions.

   d. Unintentional groundings.

5. Shore-Specific Reportable Events. Report events that occur on or off Coast Guard property where military personnel (on or off-duty), on-duty civilian personnel, or visitors/guests (on Coast Guard property, only) are involved.

   a. Personnel. Shore mishap reports should include on-duty civilian and Department of Defense personnel, civilian personnel engaged in dependent activities on Coast Guard property, and Auxiliary members assigned to duty or performing an authorized activity as defined by Reference (e).

   b. Recreational/Off-Duty Mishaps. Report mishaps resulting in personal injury involving military members in an on- or off-duty status and Coast Guard civilian personnel participating in required recreational activities on or off Coast Guard property.

6. Motor Vehicle-Specific Reportable Events. Motor vehicle mishaps include both on- and off-duty mishaps for active duty members and reserve members in an active duty status, civilians in an on-duty status, and might involve either privately owned or government owned/leased vehicles.

a. Motorized Vehicles. This includes all four-, three-, and two-wheeled motor vehicles such as motorized scooters, motorcycles, Private Motor Vehicles (PMVs), Government Vehicles (GVs), All-Terrain Vehicles (ATVs), snowmobiles/snowmachines, and special-purpose motor vehicles.

b. Towing and Trailering. All mishaps involving the towing or trailering of boats or other equipment (e.g., response trailers), not otherwise categorized, are included. Mishaps that occur during launch and recovery operations of the boat are considered afloat mishaps.

7. Non-Reportable Events. The following events are exceptions to the mandatory reporting requirements of this Chapter:

a. Intentional Damage, Intentional Injury, Acts of Violence, or Criminal Activity. Intentional damage or injury caused by hostile action, malicious acts of sabotage, arson, suicide, homicide or other malicious and intentional acts of violence (e.g., vandalism, riots, civil disorder, sabotage, muggings, etc.) are not reportable events. Upon determination that the damage or injury was incurred under any of these conditions, the event is no longer considered reportable.

b. Injuries that occur while Absent Without Leave (AWOL) Status. Injuries that occur while AWOL are not reportable.

c. Intentional Damage or Injury During National Defense Operations. Intentional or expected damages or injuries incurred during the defense of the United States, its citizens and/or installations are not reportable. If the intentional action is not a warranted risk or a willful violation as determined by the operational commander, the event is reportable.

d. Damage or Injury as a Result of Law Enforcement Operations. Intentional damage or injury incurred as a result of a law enforcement action ordered by a competent authority including use of force to compel compliance is not reportable. Unintentional collateral damage or injury during a law enforcement action is reportable. Refer to Paragraph B.2.f. for reporting requirements.

e. Death from Natural Causes. Death due to natural causes unrelated to strenuous acts performed at work or to physical training associated with the requirement to pass physical standards.

f. Illegal Drug Use. Death or injury that results solely from the illegal use of drugs or other substances, excluding the illegal use of alcohol. The key in determining whether or not the mishap is reportable is whether illegal drugs or other substances were the only factors involved in the death or injury.

g. Hospitalization Extension for Observation Reasons. Inpatient hospitalization solely for observation, counseling, diagnostic testing, or administrative reasons not related to the immediate injury or occupational illness, unless additional reporting criteria are met (e.g. medical treatment beyond first aid).

h. Hospitalization Extension for Administrative Reasons. Inpatient hospitalization for treatment where the patient is retained beyond the day of admission solely for administrative reasons unless additional reporting criteria are met (e.g. medical treatment beyond first aid).

i. Medical Reaction. An unwanted or unexpected negative reaction to a medication or treatment that is used in an approved manner.

j. Minimal Stress Injuries. Injuries resulting from minimum stress and strain (simple, natural, and nonviolent body positions or actions, as in dressing, sleeping, coughing, or sneezing). Those are injuries unrelated to mishap-producing agents or environments normally associated with active participation in daily work or recreation.

k. Pre-Existing Musculoskeletal Disorders (MSD). Injuries resulting from pre-existing Musculoskeletal Disorders (MSD), unless the injuries were specifically aggravated or accelerated by current tenure of service.

l. Pre-Existing Injuries. Injuries sustained before entry into military service or employment by the U. S. Government, unless the injuries were specifically aggravated or accelerated by current tenure of service.

m. Non-Occupational Illnesses/Medical Conditions. Illnesses or medical conditions that cannot be associated with an occupational exposure.

n. Minor, On-Duty Injuries. Injuries to military or civilian employees (in the performance of official duties) that require no more than simple first aid.

o. Minor, Off-Duty Injuries. Injuries to military members that occur off-duty and do not result in days away from work, restricted duty, or do not require more than simple first aid are minor off-duty injuries.

p. Off-duty Coast Guard Civilian Employees. Off-duty injuries to Coast Guard civilian employees including injuries that occur during optional Coast Guard sanctioned events on or off Coast Guard property.

q. Damage to Contractor-Owned Property. Unless any damage can be directly linked to Coast Guard processes, personnel, or equipment, the event is not reportable.

r. Contractor Mishaps. Contractor mishaps in which the contract employee is not under the direct supervision of Coast Guard personnel is not reportable.

s. Conditionally-Predicated Damage. Damage which cannot be reasonably prevented (e.g., range or forest fires, floods, or seismic events).

t. Research and Development Testing. Intentional or expected damage to Coast Guard equipment or property incurred during authorized testing for research and development purposes.

u. Normal Wear and Tear of Equipment. Damage, malfunctions or failures of equipment or components due to normal wear and tear.

(1) This applies only if the malfunction or failure is the ONLY damage and the sole corrective action is to replace or repair the component.

(2) If the malfunction or failure of a component occurs prematurely (e.g., prior to advertised mean time between failure, mean time to repair, etc.), the event is reportable.

(3) If the malfunction or failure of a component results in collateral damage to other components or personnel injury, the event is reportable.

(4) Design defects, poor workmanship, incorrect use of materials and improper installation are not considered normal wear and tear.

(5) If additional circumstances surrounding the event can be of value to the fleet, such as capturing fleet-wide trends or passing on lessons learned, the event should be reported and shared with the fleet through Admin OIX.

v. Bird and Wildlife Strikes with No Damage. Wildlife strikes without aircraft damage or personnel injury (even if a precautionary landing is made) are not reportable unless additional circumstances surrounding the event would be of value to the fleet. The Federal Aviation Administration (FAA) strongly encourages reporting of all bird/wildlife strikes. If the strike occurs near an airport, the airport manager might require and benefit from a report.

w. Planned Controlled Jettison. Intentional jettison or release during flight of cargo, fuel, life rafts, auxiliary fuel tanks, drag chutes or external equipment, when there is no reportable injury or damage to the aircraft or other property, is not reportable. This does not apply if the jettison was the result of a malfunction. A good test of this exception is to question the intent of the aircrew. If the load was not meant to depart the aircraft, it is a reportable mishap. If the jettison is intentional but other aspects of the event can be of value to the community, it should be reported.

x. Precautionary Landing or Aborted Takeoff. Any precautionary landing, aborted takeoff, or failure to get airborne without confirmed failure, malfunction, or damage (e.g., suspected blade strike, warning lights, bird-strike, etc.) are not reportable, as long as no additional damage occurs during landing.

(1) Other reporting considerations are described in Paragraph B.3.b.

(2) If additional circumstances surrounding the event can be of value to the fleet, such as capturing fleet wide trends or passing on lessons learned, the event should be reported. For example, false alarms or erroneous indicator lights should be reported if either of these conditions is met.

y. Laser Exposure Originating from Unknown Source or Due to an Intentional Act. These events are either unlawful acts or criminally negligent and as such are not reportable as mishaps. See Chapter 23, Paragraph B.2.o for response and reporting requirements. However, if the laser event interferes with the crewmember's ability to perform their duties, the event should be reported as an aeromedical event per Section B.3.a. of this hapter. In addition, the laser event should be reported to the unit flight safety department so that the flight safety officer can maintain AOR laser hotspots for the OPHAZARD training.

8. Mishap Assessment Definitions. The definitions below are provided to facilitate mishap event assessments and appropriate response and reporting activities.

a. Duty Status – On Duty.

(1) Coast Guard personnel are on duty when they are physically present at any location to perform their officially assigned work. This includes activities normally associated with work, such as physical fitness, walking to and from parking lots, lunch periods, and rest breaks. All active-duty personnel onboard a military vessel or aircraft are considered on duty.

(2) Coast Guard personnel are on duty when they are being transported any time by government motor vehicle or commercial vehicle for the purpose of performing officially assigned work. This includes travel in a private motor vehicle, or commercial conveyance while performing official duty, but not routine travel to and from home and work or duty station (except SELRES transportation beyond RCD for reporting for duty). Coast Guard personnel in a government leased or chartered water taxi are on duty.

(3) Coast Guard personnel are on duty when they are participating in physical training activities while on station, onboard ship, or any place while under orders (i.e. Temporary Duty (TDY)).

(4) Coast Guard personnel are on duty when they are participating in command-directed or command supported events.

(5) Reservists are considered on duty when they are at designated drill sites performing inactive duty training or are performing annual training, annual duty training, or active-duty special work and en route to these sites, training and work.

(6) Civilians are considered on duty when they: reach federal property, are in transit to and from off-site/remote/temporarily assigned duty work sites; are in performance of their official duties; or are participating in Coast Guard-required recreational activities on or off Coast Guard property.

(7) Coast Guard personnel on temporary additional duty and temporary duty, away from the regular place of employment, are on duty during the performance of duties and during travel for any injury that results from activities essential or

incidental to the temporary assignment. However, when personnel deviate from the normal incidents of the trip and become involved in personal activities not reasonable or incidental to the assignment, the person ceases to be considered on duty for safety analysis and reporting purposes of occupational injuries or illnesses.

b. Duty Status – Off Duty.

(1) Whether on or off Coast Guard installations (excluding ships and aircraft), Coast Guard personnel are off duty when they are on leave, liberty, on permissive Temporary Additional Duty (TAD), or an unauthorized absentee.

(2) Participating during non-working hours in base or installation team sports and events sponsored by the command and participation is voluntary.

(3) Coast Guard civilian personnel are off duty during the workday (even though on federal property) when they are engaged in personal activities unrelated to employment such as eating, physical training, resting, shopping, running errands, etc. Exceptions might apply for personnel directed to participate in activities that result in an injury.

c. Duty Status – Limited Duty. A military duty status formally assigned as a result of a medical board. Time spent in limited duty is not chargeable as lost time regardless of the cause for the assignments to limited duty. Under limited duty, the military member is frequently reassigned from his or her permanent duty station to temporary duty station until the medical issue is resolved.

d. Days Away from Work. The total number of full calendar days, including weekends, that the person was unable to work as result of an injury or occupational illness, excluding the day of the mishap and the day returned to duty or work. Days Away from Work is referred to as "Lost Workdays" in electronic mishap reporting systems.

(1) For Coast Guard military personnel, these include each day hospitalized, sick in quarters, or in convalescent leave as result of injury or work related illness.

(2) For Coast Guard reserve personnel, the days in which they are in a "not physically qualified" status sustained as result of injury at any time in route to, during, or returning from a drill or during annual training are considered lost time.

(3) For Coast Guard civilian personnel, this includes continuation of pay leave, annual leave, sick leave, days hospitalized, and leave without pay granted, or a full work shift missed because a work-related illness or injury.

e. Restricted Work Activity. Restricted work activity occurs when, as a result of the work related injury or illness, an employer or health care professional keeps, or recommends keeping, an employee from doing the routine functions of his or her job, or from working the full work day that the employee would have been scheduled to

work before the injury or illness occurred. To determine the number of restricted workdays, count the number of calendar days the employee was on restricted work activity or was away from work as a result of the recordable injury or illness. Do not count the day on which the injury or illness occurred in this number. The military equivalent of restricted work is Light or Limited Duty.

f. First Aid. First aid treatment is treatment that any individual, not necessarily a health care professional, can provide. If the incident requires only the following types of treatment, consider it first aid and do not record the case (i.e., this is not a reportable mishap under this Manual).

(1) Using a non-prescription medication at non-prescription strength.

(2) Administering tetanus immunizations (other immunizations, such as Hepatitis B vaccine or rabies vaccine, are considered medical treatment beyond first aid).

(3) Cleaning, flushing or soaking wounds on the surface of the skin.

(4) Using wound coverings such as bandages, Band-Aids™, gauze pads, butterfly bandages or Steri-Strips™.

(5) Using hot or cold therapy.

(6) Using any non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts, etc.

(7) Using temporary immobilization devices while transporting an accident victim (e.g., splints, slings, neck collars, back boards, etc.).

(8) Drilling of a fingernail or toenail to relieve pressure.

(9) Draining fluid from a blister.

(10) Using eye patches.

(11) Removing foreign bodies from the eye using only irrigation or a cotton swab.

(12) Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs or other simple means.

(13) Using massages (physical therapy or chiropractic treatment are considered medical treatment beyond first aid).

(14) Drinking fluids for relief of heat stress.

g. Injury or Occupational Illness Severity.

(1) Fatality. Any loss of human life that can be attributed to the mishap event.

(2) Permanent Total Disability. Any non-fatal injury or occupational illness that in the opinion of competent medical authority, permanently and totally incapacitates persons to the extent that they cannot maintain any gainful occupation. The loss of use of both hands, both feet, both eyes, or a combination of any of these body parts as a result of a single mishap, is reported as a permanent total disability. Occupationally linked chronic irreversible diseases must also be considered as a permanent total disability.

(3) Permanent Partial Disability. An injury or occupational illness that in the opinion of competent medical authority, results in permanent impairment. The loss or loss of use of any body part other than teeth, nails, and tips of digits is reported as a permanent partial disability unless specifically determined to be otherwise by competent medical authority. Occupationally linked cancers – other than non-malignant skin cancers – are reported as a permanent partial disability.

(4) Beyond Simple First Aid. An injury requiring treatment beyond what is specified in Paragraph B.8.f above.

h. Intent for Flight. Intent for flight is a prerequisite for aviation mishaps with Flight Mishap (FM) and Flight Related Mishap (FRM) type designations. Refer to Paragraph B.3.b for additional considerations when reporting aborted flight or takeoff events. Aviation mishaps that do not meet the intent for flight criteria listed below are designated as Aviation Ground Mishaps.

(1) Fixed Wing and Rotary Wing Aircraft. Intent for flight begins when any engine, excluding auxiliary power units, is set into motion intentionally, either by internal or external power. Intent for flight continues until the aircraft has landed and the engine(s), propeller(s) or rotor(s) have stopped.

(2) Unmanned Aircraft Systems (UAS). Intent for flight begins when UAS power is applied and brakes are released (if so equipped), or UAS is hand released by the operator, or the launcher is released, for the purpose of moving an aircraft under its own power to commence authorized flight or ground operation by an authorized crew. Intent for flight ends when the UAS is at a full stop and power is completely reduced and/or the engine(s) stopped, and as applicable the system is secure in its net or recovery system.

(3) Amphibian Aircraft (Auxiliary Only). Intent for flight begins when any engine, excluding auxiliary power units, is set into motion intentionally, either by internal or external power. Intent for flight continues for amphibian aircraft landing on water until the aircraft has made a water landing, the engine(s), propeller(s) or rotor(s) have stopped, and the aircraft has been anchored, moored, taken in tow or otherwise comes to rest (adrift).

9. Mishap Classification. Mishaps are classified according to severity level (Class) and Operational Mode (OPMODE) (type). Severity is determined by the extent of injury or

cost of damage including direct costs but excluding indirect costs described in Paragraph B.9.b.(8). Use the criteria below to determine the class and type of mishap for overall mishap classification and reporting purposes. Before classifying a mishap, ensure it meets reportable criteria per Paragraph B.1 of this Chapter.

a. Mishap Classes. Mishaps are divided by class (A, B, C, D and E) according to resulting severity of injury or cost of property damage/loss. Class A mishaps are the most serious, while Class D mishaps are the least severe. Class E mishaps are reserved solely for aircraft engine damage mishaps.

b. Mishap Class Determination. During initial response, use the highest reasonably expected injury severity and/or damage cost estimate to determine the mishap class and downgrade later if additional information indicates a lower class is warranted. If there is a 50/50 chance that the injury severity or damage cost might result in an elevated class, the higher class must be applied. Frequently, mishaps are later determined to be of a higher classification and opportunities to complete critical post-mishap activities are lost (e.g., prompt mishap analysis board activation, toxicology sampling, 72-hour histories, etc.). Taking action based on the highest potential mishap classification preserves critical information that might otherwise be lost, and ensures our ability to determine lessons learned for mishap prevention purposes.

(1) Class A Mishaps Include:

(a) An injury or occupational illness results in a fatality or permanent total disability.

(b) Any military personnel are missing or missing in action.

(c) Damage to Coast Guard or non-Coast Guard property (excluding boats) is $2,000,000 or greater.

(d) Damage to a Coast Guard or non-Coast Guard boat of $300,000 or greater.

(2) Class B Mishaps Include:

(a) Any injury or occupational illness that results in permanent partial disability.

(b) Damage, to Coast Guard or non-Coast Guard property (excluding boats) of $500,000 or greater, but less than $2,000,000.

(c) Damage to a Coast Guard or non-Coast Guard boat of $200,000 or greater, but less than $300,000.

(3) Class C Mishaps Include:

(a) An injury or occupational illness that results in one or more days away from work beyond the day or shift in which the mishap occurs. This includes:

[1] Loss of time from work; and/or

[2] Placement on a limited duty or restricted duty status; and/or

[3] Transfer of any individual(s) to a different job.

(b) Damage, to Coast Guard or non-Coast Guard property, is $50,000 or greater (excluding boats), but less than $500,000.

(c) Damage to a Coast Guard or non-Coast Guard boat of $50,000 or greater, but less than $200,000.

(4) Class D Mishaps Include:

(a) Any injury or occupational illness that requires treatment by a medical professional but does not result in any days away from work, or transfer to a different job, beyond the day or shift in which the mishap occurs.

(b) Damage to Coast Guard or non-Coast Guard property (excluding aviation) of $5,000 or greater, but less than $50,000.

(c) Any damage to aviation property of less than $50,000.

(d) Other reportable events described in Paragraph B.2.

(5) Class E Mishaps Include:

(a) Aviation Flight mishaps or Aviation Ground mishaps only.

(b) Mishaps that result in damage to the engine and/or integral engine components only, regardless of damage cost. Integral engine components for mishap reporting under this Class include: engines; engine controls; engine mounted accessory gearboxes; engine plumbing; engine wiring; etc.

(c) Engine Foreign Object Debris/Damage (FOD) incidents.

(d) If the damage is not limited to the engines (e.g., airframe, propellers, rotor blades, causes an injury, etc.), classify the mishap event according to standard Class A-D mishap severity thresholds.

(e) Classify Auxiliary Power Unit (APU) mishaps according to standard Class A-D mishap severity thresholds.

(6) High Potential (HIPO) Events. A HIPO event is a Class C, D, E mishap, or 'near miss' event that had the potential to result in a catastrophic loss (e.g., fatality, severe injury, loss of asset, etc.). The purpose of labeling an event as a HIPO is to speed the reporting requirement (24-hour preliminary database entry) and alert the field to a potential hazard. The difference between a Class C, D, E, or HIPO event and a Class A or B mishap might only be sheer luck or the quick

thinking/reaction of alert personnel. Units experiencing HIPO events must comply with reporting requirements detailed in Table 3-1.

(7) Mishap Costing. The following considerations apply when determining direct costs for the purpose of mishap classification and are consistent with DoD safety policy noted in Reference (w).

(a) Calculate the direct cost of a mishap by adding all costs of damaged or destroyed assets, including resultant costs such as decontamination, environmental restoration, and restitution. The direct cost of damage to Coast Guard or non-Coast Guard property must be computed using the actual cost of repair or replacement (including work hours for repair) or the best official estimate available.

(b) The cost of a destroyed asset includes the original costs of the asset and all subsequent modifications. An asset that is damaged but will not be repaired is not automatically a destroyed asset. The decision whether or not to return an asset to service is independent of any effect on mishap classification. If a damaged asset is repaired, the direct cost is the actual cost of repairs. If it is not repaired, use the best available estimate for repair cost or destroyed cost, whichever is lower. Refer to Paragraph B.9.b (7) (e) below.

(c) Include best available estimated costs for unscheduled use of dry docks or commercial repair facilities required to complete mishap repairs.

(d) When multiple resources are damaged or destroyed during a single event, calculate and document the damage in a single mishap report to prevent dual reporting. Refer to Paragraph B.10.e below for mandatory mishap reporting requirements that apply to events involving more than one operating mode or unit.

(e) When components are damaged to the extent they must be returned to a repair facility, the cost of damage shall be reported as the actual cost for repairs, if such figures are available. If actual repair costs cannot be determined, use the repair facility established standard repair costs or standard repair costs. If these figures are not available, the reported cost for repair shall be computed at 15 percent of the initial unit cost. For components, including engines or engine modules, damaged beyond economical repair, use replacement cost.

(f) For questions related to mishap cost estimation contact HSWL SC (se).

(8) Indirect Costs. Indirect costs are excluded from any calculations for the purpose of mishap classification. Indirect costs estimates should be included in safety, salvage or other reports, provided that they remain independent from values used for mishap classification.

(a) Indirect costs include expenses incurred during the mishap analysis and recovery process (e.g. site security, salvage, wreckage recovery, wreckage transport, shipping expenses, personnel per diem and travel expenses, specialized technical assistance, setting up equipment for analysis and repair, etc.).

(b) Indirect costs include additional Coast Guard property damage costs resulting from rescue or salvage operations.

(c) Indirect costs include the cost of intentionally jettisoned items.

10. Mishap Types / Operational Mode (OPMODE). The OPMODE is the Coast Guard environment in which a mishap occurs. OPMODES include Aviation, Afloat, Shore and Motor Vehicle. Refer to Paragraph B.10.e below for mandatory mishap reporting requirements that apply to events that might involve more than one OPMODE or unit.

a. Aviation. Coast Guard mishaps involving aircraft or flying operations must be reported under the Aviation OPMODE. Aircraft include all Coast Guard owned and operated UAS. Aviation OPMODE mishaps include the following types.

(1) Flight Mishap. A mishap where there is intent for flight and damage to Coast Guard aircraft.

(2) Flight-Related Mishap. A mishap where there is intent for flight and no reportable damage to Coast Guard aircraft, but the mishap involves a fatality, reportable injury, reportable occupational illness or property damage.

(3) Aviation Ground Mishap. A mishap where there is no intent for flight that results in damage to an aircraft or the mishap involves a fatality, reportable injury or reportable occupational illness involving an aircraft. This applies to aircraft both on land and on board ship. Damage to an aircraft when it is being handled as a commodity or cargo is not reportable under the Aviation OPMODE.

(4) Coast Guard Auxiliary Aviation Mishaps. Report the following mishap events per Reference (d).

(a) A mishap that results in reportable damage to Auxiliary aircraft while operating that Auxiliary aircraft under official orders.

(b) A mishap that involves death, reportable injury or reportable occupational illness to Auxiliary aviation personnel while operating an Auxiliary aircraft under official orders.

b. Afloat. Coast Guard mishaps occurring on board or resulting from or during the operation of a Coast Guard vessel, including mishaps during Coast Guard diving or swimming operations; mishaps occurring while loading, off-loading, or receiving services at dockside; and mishaps occurring up to the high water mark during amphibious or inshore missions, must be reported under the Afloat OPMODE. When

reporting under this OPMODE, a Coast Guard vessel includes any non-Coast Guard vessel performing a Coast Guard mission, or on which a Coast Guard mission is being performed. Additional Afloat requirements and considerations include:

(1) Units informed of a mishap involving other units, personnel or assets must refer to Paragraph B.10.e for additional requirements.

(2) Afloat mishaps include all on-duty reportable injuries to Coast Guard personnel occurring on board.

(3) Afloat mishaps include mishaps that occur when Coast Guard personnel are injured while performing duties on board or resulting from or during the operation of a non-Coast Guard vessel.

(4) Afloat mishaps include mishaps that occur while a Coast Guard vessel is docking or undocking with its propulsion system energized.

(5) Afloat mishaps include mishaps that occur while a Coast Guard vessel is moored or anchored.

(6) The vessel boundary during an afloat mishap includes the gangway, all shore ties and mooring lines to their point of attachment on shore.

(7) Afloat mishaps include mishaps that occur during Coast Guard vessel launch and recovery operations when not connected to a trailer. Mishaps that occur once a vessel is connected to a trailer are reported as Motor Vehicle (Towing and Trailering) mishaps.

(8) Mishaps resulting from shipyard, repair-facility or private-contractor operations are reported as Shore (Shipyards and Industrial Facilities) mishaps, not Afloat mishaps.

(9) When reporting Afloat mishaps, units must distinguish between boats assigned to cutters and boats assigned to shore units.

(10) Damage to Auxiliary facilities or the fatality, injury, or occupational illness to Auxiliary personnel assigned to duty must be reported per References (d) and (e). All reportable Coast Guard Auxiliary Afloat mishaps must be reported in the appropriate electronic mishap reporting system.

c. Shore. Shore mishaps are divided into five types:

(1) Operations Ashore. A mishap resulting from operations that occur while ashore, including law enforcement activities, land-based harbor patrols, facility inspections, training and drills, and pollution response.

(2) Shore Units. A mishap that occurred at a shore unit or facility, including those in support of operational assets. Mishaps involving an afloat or aviation asset are

not included. For example, Shore mishaps would include an Air Station hanger door mishap or a Boat Station maintenance shop mishap, but not a mishap to an aircraft or a boat.

(3) Shipyards and Industrial Facilities. A mishap on an afloat asset undergoing repairs or maintenance at a commercial shipyard or in a dry dock status is reported as a Shore mishap.

(4) Weight Handling Equipment (e.g., Cranes and Powered Industrial Trucks). Weight handling mishaps include, but are not limited to: fixed, mobile, gantry, overhead and bridge cranes; powered industrial trucks, forklifts; and hand trucks.

(5) Recreational and Off-Duty Mishaps. A mishap resulting in personal injury involving military members and Coast Guard civilian personnel participating in officially sponsored recreational activities on or off Coast Guard property including off-duty mishaps aboard vessels.

d. Motor Vehicle. A motor vehicle mishap is an event involving the operation of any motor vehicle that results in death, injury, occupational illness, or government-owned vehicle property damage exceeding $5,000 (Class D threshold) or meet the criteria for a HIPO event described in Paragraph B.9.(b).(6) of this Chapter. A motor vehicle mishap includes on- or off-duty mishaps that involve either privately-owned or government-owned, or leased vehicles.

(1) Motorized Vehicles. This includes all four-, three-, and two-wheeled motor vehicles such as motorized scooters, mopeds, motorcycles, private, government, all-terrain, and special-purpose motor vehicles.

(2) Towing and Trailering. Mishaps involving the towing or trailering of boats or other equipment (e.g., response trailers) are included. Mishaps that occur during launch and recovery operations of the boat after it has been released from the trailer are considered Afloat mishaps.

(3) Non-Motorized Vehicles. Non-motorized vehicle (e.g., bicycles) mishaps are reported under the Shore OPMODE.

e. Multiple OPMODE/Unit Mishaps. For mishap situations not addressed in the paragraphs below, the Senior Commander for the mishap mission or activity must promptly assess available information and assign initial unit mishap response and reporting responsibilities. Once additional information is known, clarifications and changes to assigned unit responsibilities are often required.

(1) Units must immediately complete all mishap response, notification and reporting requirements described in this Chapter once made aware that any reportable mishap has occurred aboard their unit/vessel or involving any permanent or temporarily assigned, attached, detached or visiting/embarked personnel or assets (e.g., aviation, afloat, DSF, support personnel or assets).

(2) Units involved in a potential Class A or B mishap must immediately perform initial notifications listed in Table 3-1 and activate the unit mishap response plan described in Paragraph C.1 below. Once rescue operations are completed, the mishap unit assumes responsibility for ensuring the safety and security of the mishap site and involved assets. Mishap units must promptly collect and safeguard perishable evidence and factual information. Examples include: toxicological testing, asset fluid samples, 72-hour histories, security camera footage, data recorders, maintenance records, personnel records, and uninvolved witness interviews, for additional guidance refer to reference (a).

(3) As preliminary mishap details (e.g., locations, involved units, assets or personnel, damage and injury, OPMODEs, etc.) are discovered, the following requirements apply unless directed otherwise by the mission commander, HSWL SC, or CG-113.

(a) The mishap unit must coordinate with other involved units to confirm assignment, continuation and completion of all mandatory mishap response, analysis and reporting requirements.

(b) Mishaps that occur while an operational or support unit asset (e.g., aircraft, vessel, vehicle, or equipment, etc.) is in transit to or from the asset's home unit are reported by the home unit.

(c) If a mishap involves personnel injuries only, the unit exercising administrative control of the injured personnel must report the mishap.

(d) If a mishap involves property damage only, the unit exercising operational control of the damaged property must report the mishap.

(e) For mishaps involving multiple aviation assets, the unit signing the flight schedule must report the mishap.

(f) Aviation (Flight or Flight-Related) mishaps that also result in property damage, death, reportable injury or reportable illness under any other OPMODE (i.e., Afloat, Shore, or Motor Vehicle) are in most circumstances reported as Aviation OPMODE mishaps and entered into e-AVIATRS to avoid dual reporting. Dual reporting for multiple OPMODE mishaps may be approved by CG-113 on a case-by-case basis. If dual reporting is approved, record all aviation and non-aviation property damage and injury data in e-AVIATRS and document the associated Report Number (RNO) in each mishap report.

(g) The mishap unit conducting the analysis must give other involved units an opportunity to review the analysis results and include any resulting endorsements in the final mishap report prior to the final submission in e-AVIATRS or e-MisReps.

(h) The mishap unit CO must ensure that all involved assets' home units are provided an opportunity for endorsement of the mishap report prior to submission in e-AVIATRS.

(i) Aviation OPMODE mishap reports that occur away from the home unit are entered into e-AVIATRS by the involved aircraft's home unit on behalf of the mishap unit and other involved units.

(j) Refer to Paragraph 3.B.7.q. for considerations related to contractor-owned and contractor-operated UAS events.

(k) Not all reportable Aviation Ground mishaps that occur at aviation units are reportable under the Aviation OPMODE. Reportable Aviation Ground mishaps that do not result in aircraft damage (or death or injury involving an aircraft) are reported as Shore OPMODE mishaps in e-MisReps.

C. Mishap Response Planning.

1. Mishap Response Plan (MRP). Units must develop and implement a MRP to ensure rapid, decisive and appropriate level of response, notification and analysis of all mishaps. Parent units such as Sectors and Activities may include subordinate and/or tenant units in their MRP. Units must comply with the following MRP requirements:

a. MRPs must be documented and readily accessible to unit personnel tasked with response duties following a mishap.

b. MRPs must be updated and drilled annually. Since mishaps may involve multiple units and Sectors (e.g., a boat station, a coastal patrol boat, and a command center), drills should include all potential units to simulate the logistics and administrative challenges for a coordinated mishap response.

c. MRPs must include procedures for mishaps that occur away from the home unit.

d. The MRP must include baseline content from the template provided in Reference (a) and must be tailored to address unit-specific needs.

e. The MRP must include the elements listed below tailored to meet the comprehensive response requirements of the command and all affected subordinate and tenant units.

(1) Emergency Response. 911 – Alert first responders; activate response, security, logistics support, diving, salvage agreements; etc.

(2) Initial Mishap Notifications and Reports. Per Table 3-1.

(3) Mishap Assessment. Determine if reportable, class, OPMODE, type, etc.

(4) Administrative Considerations. Recall lists; casualty/legal assistance and next of kin notifications; public affairs and media relations; incoming/outgoing

telephone calls and social media; Critical Incident Stress Management (CISM); etc. See References (g), (h), (i), (j) and (k) for additional policy requirements.

(5) Mishap Site Management. Safety, security, hazard containment; evidence collection/preservation; mishap crew and witness statements and interviews; salvage; etc. The mishap unit or designated response unit must manage the mishap site until the analysis is complete, a PMB or Commandant MAB assumes custody, or the CO/OIC directs otherwise. If convened, the MAB president determines use of evidence.

(6) Medical Considerations. Completion of Medical Officer's Report (MOR), collection of toxicological evidence per Paragraph E.5.d. of this Chapter; care of human remains; etc.

(7) Other Evidence Collection. Administrative, training, maintenance records and logbooks; mechanical fluid samples; electronically stored data/information; 72-hour history; autopsies; etc.

2. Permanent Mishap Board (PMB). Units must establish a PMB to serve as the primary safety analysis body for unit mishaps.

a. Units must identify PMB members and alternates in the MRP. Units should identify PMB members by position or billet in order to minimize edits and updates as members rotate or change positions.

b. Units must identify PMB member duties in the MRP.

c. All PMB members and alternates must participate in MRP drills.

d. PMB members should become familiar with general requirements and limitations related to unit mishap analysis (e.g., mishap site hazards, evidence preservation, other investigations, etc.) described in Section E, Mishap Analysis.

D. Mishap Reporting. This Section addresses mishap notification, reporting and endorsing requirements for all reportable mishaps. Timely mishap reporting is critical to ensure the appropriate organizational resources are engaged to support mishap analysis and take corrective action to prevent repeat mishaps. Table 3-1 provides mishap notification and reporting timelines.

Mishap Class	Initial Mishap Notification	Preliminary Database Entry	MAB Progress Messages & Safety Info Release	Final Mishap Report Submission (Note 5)
A / B	CG-DCO-NCC: 5 mins (202) 372-2100 See Note 1	12 Hrs for all mishaps	Arrival / 72 Hrs / Adjourn See Notes 2, 3	30 Days: MAR Part A ≤ 60 Days: Final MAR (after MAB Arrival)
C		24 Hrs - operational and HIPO	See Note 4	45 Days (after mishap)

		mishaps only See Note 7		
D		24 Hrs - operational and HIPO mishaps only See Note 7	See Note 4	45 Days (after mishap)
E		24 Hrs - operational and HIPO mishaps only See Note 7	See Note 4	45 Days (after mishap)
CG On-Duty Civilian	OSHA: 8 Hrs – Death; 24 Hrs – Major Injury See Notes 1, 6	IAW Mishap Class	IAW Mishap Class	IAW Mishap Class

Note 1: Comply with notification timelines in Critical Incident Communications, COMDTINST 3100.8 (series) (FOUO). Class A/B notification is 5 minutes after Coast Guard is aware of the mishap.
Note 2: MAB arrival, 72 hr, and adjournment messages; critical info/updates as required and directed.
Note 3: If MAB discovers information that seriously impacts operations, immediately notify COMDT (CG-113).
Note 4: If a MAB is convened, submit progress messages as directed by convening authority.
Note 5: If a MAB is convened, submit final report as directed by convening authority; final database entries for mishaps that result in a Mishap Analysis Report (MAR) are completed by COMDT (CG-113).
Note 6: Notify local OSHA or (800) 321-OSHA; 24 hrs: In-patient hospitalization, loss of eye, amputation.
Note 7: For operational and HIPO mishaps in Aviation, Afloat, and Ashore OPMODEs ONLY. Operational mishaps include any activity that involves the planning, conducting, supervising, and monitoring of Coast Guard activities. If mishap database is not accessible, units shall contact HSWL SC to report mishap.

Table 3-1: General Mishap Notification and Reporting Timelines

1. Initial Mishap Notification and Reporting Requirements. Units must complete direct phone notifications or confirm notification through the operational commander. Notifications must include preliminary information regarding location, time, and injury to personnel and/or damage to property and impact on Coast Guard operations.

   a. All Class A and B mishaps require telephone notification within five minutes of occurrence, to the Coast Guard National Command Center (CG-DoD-NCC) at (202) 372-2100. All mishap initial CG-DoD-NCC notification is per Critical Incident Communications, COMDTINST 3100.8 (series) (FOUO).

   b. All Class A and B mishaps require a preliminary database entry within 12 hours of occurrence in e-MisReps (non-aviation) or e-AVIATRS (aviation) mishap reporting system. For Class C, D and E operational and HIPO mishaps, a preliminary database entry is required within 24 hours of mishap occurrence. Preliminary database entries are critical to ensure that all required mishap response actions are immediately initiated. Preliminary database entries should be brief and only include basic information regarding location, time, and injury to personnel and/or damage to property. Non-operational Class C and D mishaps do not require a preliminary

database entry. If units are not able to access the mishap database, units shall contact HSWL SC for assistance.

c. Report all Coast Guard civilian on-duty deaths and injuries described below to the local OSHA office, by phone at (800) 321- OSHA, or through the reporting application at www.osha.gov. OSHA reporting requirements described below comply with Reference (c).

(1) Within eight (8) hours after the death of any Coast Guard civilian employee as a result of a work-related incident.

(2) Within twenty-four (24) hours after the in-patient hospitalization of one or more employees, or an employee's amputation, or an employee's loss of an eye, as a result of a work-related incident.

2. Additional Reporting Requirements.

a. The Personnel Casualty Report does not meet mishap reporting requirements per this Chapter. Units must meet mishap reporting requirements described in this Chapter in addition to submission of any required Personnel Casualty Reports.

b. A Workers' Compensation injury (CA-1) or illness (CA-2) claim (used for civilians and Auxiliarists) does not meet mishap reporting requirements per this Chapter. Supervisors must first file a report into the electronic mishap database, using applicable mishap reporting criteria described in this Chapter, prior to completion of the CA-1 or CA-2.

3. Mishap Reporting Systems.

a. e-MisReps Reports. For all reportable non-aviation mishaps, units must submit an e-MisReps Report at https://hswl.uscg.mil/ per the timelines in Table 3-1. If the unit cannot meet reporting requirements, the unit must request an extension from HSWL SC (se). If a unit needs to provide more detailed, up-to-date information, or make changes to the mishap report after the e-MisReps report is submitted, units must submit such changes and corrections to HSWL SC (se) for report record adjustment. Because such changes and corrections can impact mishap classification, they must be submitted as soon as possible to ensure the correct level of mishap response. Detailed e-MisReps guidance is available in the e-MisReps Instruction Manual available at https://hswl.uscg.mil/.

b. e-AVIATRS Reports. All Aviation OPMODE mishaps listed in Paragraph B.10.a must be entered in e-AVIATRS at https://hswl.uscg.mil/ per the timelines in Table 3-1. If the unit cannot meet reporting requirements, the unit must request an extension from the reviewing command to the Chief, Safety Program Management Division (CG-1131). If a unit needs to provide more detailed, up-to-date information, or make changes to the mishap report after the e-AVIATRS report is submitted, units must submit such changes and corrections using the e-AVIATRS submit change function. Because such changes and corrections can impact mishap classification, they must be

submitted as soon as possible to ensure the correct level of mishap response. Detailed e-AVIATRS guidance is available in the e-AVIATRS User Guide available at https://hswl.uscg.mil/aviatrs/. Ground mishaps that do not involve damage (or potential damage) to an aircraft or death or injury (or potential death or injury) involving an aircraft are reported in e-MisReps.

4. General Mishap Reporting Requirements.

   a. Mishap units and formally convened mishap boards must complete preliminary mishap database entries, release information and progress messages, and submit final mishap reports within the timelines in Table 3-1.

   b. Preliminary mishap reports and mishap board progress messages must contain factual information only. These messages must not include information based on witness statements, reference suspected causal factors, nor mention pending administrative action.

   c. Critical information messages can provide all details required to prevent repeat mishaps but must not directly reference mishap causal factors or other deliberative information. General safety information management policies are described in Section F of this Chapter.

5. Unit Mishap Reporting and Command Review. The information and lessons learned contained in electronic mishap reports and associated mishap messages provide opportunities for commands to prevent future mishaps. Mishap report information and recommendations should lead to enhanced safe work practices; improve tactics, techniques, procedures, training programs and safety plans; drive engineering changes, and reassessment of operational risk.

   a. Mishap units must enter mishap data into the appropriate electronic mishap reporting system.

   b. Mishap units must complete a preliminary mishap database entry and message notification ADMIN OIX within 12 hours after all Class A and B mishap occurrences. The mishap unit must send the preliminary message notification via ADMIN OIX to Commandant (CG-113) with copies to HSWL SC (se), FORCECOM, mishap unit chain-of-command, and other appropriate addressees. Units must coordinate with their operational chain of command to ensure that reporting requirements are met.

   c. Mishap units must complete a preliminary mishap database entry and ADMIN OIX message notification within 24 hours after all Class C or D HIPO operational and HIPO mishaps. The mishap unit must send the preliminary message notification to Commandant (CG-113) with info copies to HSWL SC (se), FORCECOM, mishap unit chain-of-command, and other appropriate addressees. Units must coordinate with their operational chain of command to ensure that all reporting requirements are met.

d. The unit PMB must implement an internal mishap report review and routing process that meets the mandatory reporting timelines specified in Table 3-1.

e. Because the purpose of reviewing mishap reports is to learn from these events and prevent similar mishaps in the future, mishap reports must not assign blame or reference administrative, medical, legal or disciplinary action. Mishap reports must exclude Personally Identifiable Information (PII) defined in Reference (l).

f. The unit CO/OIC must review final mishap messages to evaluate the circumstances surrounding the mishap, and indicate recommendations or unit/fleet corrective actions needed to address deficiencies and prevent similar mishaps. The CO/OIC should limit comments to causal factors, human factors, and other safety aspects of the mishap. The CO/OIC should also readdress relevant mishap messages to unit members as appropriate.

g. Submission of Class C, D or E final mishap messages must not be delayed for lack of accurate cost data. This defeats the purpose of the mishap message reporting system. A good approximation of cost is usually sufficient for releasing the mishap message. Use the Submit Change Function to update mishap record or submit updates in the electronic mishap reporting system.

h. When required, if unit mishap report information is unavailable or incomplete, enter placeholder text (e.g., pending, unknown, etc.) in the respective mandatory reporting fields and submit the report with available preliminary information.

i. Units that are unable to meet reporting timelines must submit extension requests to HSWL SC (se). Flight Safety Officers (FSOs) must submit aviation report extension requests to Commandant (CG-1131).

j. When reporting mishaps involving multiple units or OPMODES, refer to additional requirements listed in Paragraph B.10.e.

6. <u>MAB Initial Reports and Messages</u>.

a. The MAB President must coordinate release of an arrival message upon arrival of the MAB at the assigned mishap unit or mishap location. If a MAB recess is necessary, the MAB President must notify Commandant (CG-113) to coordinate release of any required MAB recess and reconvening messages.

b. The MAB President must confirm completion of preliminary mishap database entry and message notification within 12 hours after all Class A and B mishap occurrences.

c. The MAB President must coordinate release of an analysis progress message for Class A and B mishaps within 72 hours of MAB appointment to Commandant (CG-113), HSWL SC (se), FORCECOM and the mishap unit chain-of-command.

d. The MAB President must coordinate release of additional progress messages when critical information is discovered or factual information needs to be updated. Since

key information is often unavailable prior to release of MAB adjournment message, progress messages are used to update previously released incomplete or inaccurate information.

e. The MAB President must immediately notify Commandant (CG-113) regarding discovery of any information that seriously impacts Coast Guard operations. Once informed, Commandant (CG-113) notifies the appropriate Coast Guard Headquarters offices, FORCECOM, and HSWL SC (se) as well as other agencies and ensures that proper action is taken.

f. The MAB President convened for any Class C, D, or E mishap analysis must send progress and information messages as directed by Commandant (CG-113). Commandant (CG-113) will provide all reporting and messaging templates to the MAB President.

7. MAB Final Reporting and Messaging. Based on the circumstances of the mishap and anticipated analysis complexity, Commandant (CG-113) is authorized to modify reporting and reviewing timelines from those listed below and in Table 3-1.

a. Delivery of MAB Adjournment Message. Once all on-site MAB data collection and analysis is complete, the MAB President must coordinate delivery of a draft MAB adjournment message to Commandant (CG-113) for review, approval and release. Commandant (CG-113) must send the MAB adjournment message via ADMIN OIX to Commandant (CG-11), HSWL SC (se), the mishap unit chain-of-command, and appropriate operational and support communities. The MAB adjournment message must contain:

(1) A short factual synopsis of the event providing sufficient information to update the field on what occurred.

(2) Date the MAB adjourned.

(3) Description of damage.

(4) Disposition of wreckage and/or status of salvage operations.

(5) Hazards identified during the analysis that warrant immediate attention.

(6) Recommended critical corrective actions and/or safety alerts for the field.

b. Submission of Mishap Analysis Report (MAR) and Medical Officer Report (MOR).

(1) The MAB President must submit a copy of MAR Part A and other factual information collected during the MAB analysis (e.g., technical reports, etc.) to the Major Incident Investigation (MII) Board President via an encrypted electronic method within 30 days of the MAB convening date. Prior to submission, the MAB President must coordinate completion of a compliance review by Commandant (CG-113) and Commandant (CG-LGL).

(2) The MAB President must submit the final MAR including MAR Part A, MAR Part B, MAR enclosures and MAB signatures, and the MOR (if determined necessary) via an encrypted electronic method within 60 days of the MAB convening date to Commandant (CG-113).

(3) Commandant (CG-113) must review the MAR and MOR to confirm all content requirements are met and if necessary coordinate remaining compliance edits prior to acceptance.

(4) The MAB President might be directed to submit a preliminary report pending the delivery of external analyses not considered crucial to the final analysis. Upon delivery of all relevant external analyses, the MAB President must submit the final MAR.

(5) The MAB President might be directed to provide an informational briefing to the Deputy Commandant for Mission Support (DCMS), the convening authority or other stakeholders.

(6) Prompt dissemination of mishap information is critical to ensure that mishap prevention information reaches the field in a timely manner. If MAR reporting timelines cannot be met, the MAB president must submit an extension request in writing to Commandant (CG-113).

(7) Requests for extensions must explain the reason for the delay. In most cases, only delays involving the analysis (i.e., requests for assistance, recovering wreckage teardown or awaiting lab results) are considered acceptable.

c. MAR Contents. The purpose of the MAR is to assist the Commandant in preventing future mishaps and to identify lessons learned. Unless otherwise directed by the convening authority, the MAR serves as the final reporting document for all MABs. The MAR is not a legal document and must only include information needed to clearly understand the report or mishap. Once a MAB is convened, the appointing authority will provide an informational briefing and additional guidance.

(1) MAR Part A. The MAR Part A contains only factual (non-privileged) information described in Paragraph F.1.d. To permit sharing of the MAR for mishap prevention purposes, Part A contents must exclude names or identifying numbers of mishap units, assets or personnel involved in the mishap to the maximum extent possible. Part A and any Part A enclosures must only include factual (non-privileged) information directly applicable to the mishap event.

(2) MAR Part B. The MAR Part B contains privileged information described in Paragraph F.1.c. Except where specifically indicated in the MAR template Part B contents must exclude names or identifying numbers of mishap units, assets or personnel involved in the mishap to the maximum extent possible.

(3) Medical Officer's Report (MOR) Contents. The MAB Medical Advisor must include only those portions of the MOR directly relevant to the mishap event.

(a) The MOR summary report must be handled as privileged (deliberative) information per Paragraph F.1 of this Chapter. The remaining portions of the MOR are protected under the Personally Identifiable Information (PII) and Health Insurance Portability and Accountability Act (HIPAA) protocols.

(b) Autopsy reports are included as separate enclosures to the MOR if the information is directly linked to a causal factor. The copy must also be forwarded to the Armed Forces Medical Examiner System (AFMES). Contact at (302) 346-8648 prior to delivery or go to: https://health.mil/afmes.

(4) Sensitive Information. Inclusion of other sensitive information not protected under the safety privilege described in Paragraph F.1 of this Chapter, might be prohibited or require special handling. Limit inclusion of sensitive source information in the MAR to the maximum extent possible. Additional policy specific to inclusion of sensitive information in the MAR is provided below. For general policy regarding safety information management, refer to Section G of this Chapter.

(a) If sensitive information is included with the MAR, it must be handled according to applicable policies. Sensitive information must be provided under separate enclosures and discretely labeled.

(b) The MAR must not include any information derived from classified sources as defined in Reference (n). If access to classified data is deemed critical to the analysis, the MAB President must contact Commandant (CG-113) for additional guidance.

(c) The MAR must not include any PII as defined in Reference (l). PII includes any data that can be used to distinguish or trace a person's identity, or any other personal information that can be linked to a specific individual (e.g., social security number, employee identification number, etc.)

(d) The MAB must not include information protected under the Privacy Act of 1974 (Privacy Act) in the MAR unless it is directly relevant to the mishap event or critical to understanding of the MAR. Policy regarding appropriate handling information protected under the Privacy Act is found in Paragraph G.2.g of this Chapter and Reference (o).

(e) The MAB must not include information protected under HIPAA in the MAR unless it is directly relevant to the mishap event and critical to understanding of the MAR. Policy regarding appropriate handling of information protected under the HIPAA is found Reference (b).

(f) Conclusions drawn from sensitive, factual (non-privileged) source information and documents (e.g., lab reports, toxicology, etc.) must also be handled as privileged information under the safety deliberative process.

(g) Only include audio, video and data recordings or animations as electronic files linked to the MAR if directly related to mishap influences or can assist in understanding of the MAR.

8. MAR Review and Endorsements. MAR endorsement routing and review process and timelines are determined by Commandant (CG-113) based on the overall circumstances of each mishap and the subsequent analysis. Unless otherwise indicated by Commandant (CG-113), the paragraphs below summarize the standard MAR review and endorsement process.

   a. MAR reviewers and endorsers, including the mishap unit, are not authorized to retain any physical or electronic copy of the MAR after completion of required reviews and endorsements. Access to mishap reports is only authorized by Commandant (CG-113) for safety and mishap prevention purposes. Procedures for obtaining mishap reports are described in Section F of this Chapter.

   b. Commandant (CG-113) delivers a MAR endorsement informational briefing and an electronic copy of the completed MAR to all identified endorsing commands, initiating a chain-of-command endorsement period.

   c. Endorsements are completed either concurrently or sequentially at the discretion of the senior endorsing command. If sequential endorsement is desired, the senior endorsing command must establish endorsement deadlines for subordinate commands to comply with the designated endorsement period. After the endorsement period has concluded, lack of response constitutes concurrence and headquarters review commences.

   d. Endorsing commands should comment on mishap factors, additional findings or recommendations made by the MAB. To facilitate review by the endorsing chain, all endorsers must ensure comments coincide with applicable paragraphs of the MAR (remarks should follow the same format as the reports).

   e. All endorsers must limit and link remarks and comments to specific facts, findings, analysis and recommendations contained in the MAR. If the endorser does not concur with any part of the MAR, including subordinate reviewer comments, include an alternative analysis with the reasons for non-concurrence with the endorsement.

   f. Where the need for local action is indicated, the endorser must state specific action recommended or taken to correct or prevent future mishaps at the unit/command. Comment on these actions as applicable.

   g. Route MAR endorsements and associated enclosures in electronic format to Commandant (CG-113).

   h. A signed copy of each endorsement is retained by Commandant (CG-113) and considered during subsequent review and adjudication activities.

i. MAR endorsements are deliberative and must be handled as privileged safety information as detailed in Section G. All MAR endorsement pages must contain discrete markings as described in Paragraph G.1.

9. MAR Final Review and Reporting. The final review of the MAR, MAR endorsements, and any other related analyses and reports available at the time of adjudication will occur prior to final reporting. Unless otherwise directed, the following paragraphs summarize the final MAR adjudication and final reporting process.

a. MAR Review Process Decision.

(1) Upon receipt of the MAR and related endorsements, Commandant (CG-113) coordinates with the MAB convening authority to review the circumstances of the mishap, the complexity of the mishap analysis and degree of consensus within the MAR endorsing chain.

(2) For less complex mishaps, Commandant (CG-11) directs Commandant (CG-113) to coordinate with stakeholder programs to provide relevant MAR results to appropriate operational and support communities or draft a Final Safety Message (FSM) for Commandant (CG-11) release.

(3) For more complex mishaps, a Commandant Safety Board (CSB) is convened to review the MAR, MAR endorsements and other analyses related to the mishap event.

b. Commandant Safety Board (CSB) Review and Reporting. When convened, the CSB completes the following actions within a period determined by Commandant (CG-113) not to exceed 90 days:

(1) The CSB must provide a CSB report per Paragraph D.9.c. below.

(2) The CSB is not required to comment on the MAR Additional Findings if not related to the subject mishap.

(3) The CSB must deliver a draft FSM for VCG (or Commandant CG-11) review and release per Paragraph D.9.d. below. The signed CSB memo is provided as an attachment to the FSM to ensure transparent delivery of final safety mishap analysis information. The CSB may include other attachments (e.g., promotional materials, mishap photos, etc.) for release with the FSM.

(4) If directed, the CSB provides informational briefs summarizing mishap analysis results and recommendations to Deputy Commandant for Operations (DCO), DCMS and the VCG.

(5) CSB products and related analysis briefings and notes contain deliberative information and must be handled as privileged safety information as detailed in Sections F and G.

c. CSB Report. The CSB report synthesizes information related to the mishap event, adjudicates conflicting analyses, and presents final conclusions for senior leadership review. Commandant (CG-113) will provide the CSB report template. The CSB report is delivered to the VCG by Commandant (CG-11).

d. Final Safety Message (FSM). The FSM is an internal Coast Guard document that formalizes the completion of the safety mishap analysis process and delivers critical safety information to the fleet after convening of a MAB. When necessary, the VCG will direct or Commandant (CG-11) will recommend implementation of corrective actions to prevent repeat mishaps.

(1) The FSM might include supporting documentation in attachments (e.g., CSB report, photos, etc.) for review and consideration by operational and support stakeholder addressees.

(2) The FSM contains privileged For Official Use Only (FOUO) materials that are prohibited from release to the public and are exempt from the Freedom Of Information Act (FOIA).

(3) Commandant (CG-113) will draft or if applicable, provide an assigned CSB with an FSM template to facilitate final release of the FSM through the ADMIN OIX messaging system.

e. Directed/Recommended Corrective Action and Tracking. FSM VCG directed and Commandant (CG-11) recommended corrective actions are entered into mishap reporting databases. Each FSM corrective action must include a lead action office and any required supporting action offices. Commandant (CG-113) will track all action office activities linked to FSM directed and recommended actions through resolution.

E. Mishap Analysis.

1. Discussion. The sole purpose of the mishap analysis process is to prevent mishaps and not to determine culpability for potential administrative or prosecutorial purposes. All mishaps present opportunities to learn from the event and to identify corrective actions to prevent future mishaps.

a. The mishap analysis process is focused not only on determining what occurred, but more importantly, through deliberative analysis, determining why it occurred and what can be learned from the event or changed to prevent recurrence of similar mishaps.

b. This Section discusses safety precedence, types of mishap boards, appointment and composition of safety mishap boards and the mishap analysis process.

2. Safety Precedence. Safety mishap analysis activities take precedence over any mishap investigative body or response team. Safety priority access extends to mishap crews, witnesses, mishap scene, and information/evidence related to the mishap event. Safety

analyses and legal/administrative investigations must be completed separately to protect privileged safety information in the safety report. If directed by the convening authority, safety investigations are conducted concurrently with other applicable investigations. The following exceptions to Coast Guard safety precedence apply.

a. If initiated, criminal investigations take precedence over safety analyses until criminal activity, natural causes, and suicide have been ruled out as possible reasons for damage, injury, or death. Any questions should be coordinated with Commandant (CG-113) and Commandant (CG-LGL).

b. The National Transportation Safety Board (NTSB) can exercise its authority to lead an investigation following a mishap involving both civil and Coast Guard resources.

c. Affected joint service safety chiefs determine which service has primary mishap analysis and reporting responsibility following a joint service mishap.

3. Types of Boards following a Mishap. The following safety boards and investigative bodies might be dispatched to respond following a Coast Guard mishap. The circumstances of each mishap dictate the required scope, authority and objectives of mishap response personnel.

a. Permanent Mishap Board (PMB). The PMB is the primary mishap analysis body for all off-duty Class A & B and all Class C, D, and E mishaps.

b. Commandant Mishap Analysis Board (MAB). The MAB is the primary mishap analysis body for all on-duty Class A and B mishaps or other high-interest mishap events that require an in-depth safety analysis.

c. Commandant Safety Board (CSB). The primary purpose of the CSB is to review and adjudicate the MAR, endorsements, other relevant information (e.g., MII report, etc.), and recommend corrective actions to Vice Commandant of the Coast Guard (VCG).

d. Administrative Investigations. Administrative investigations collect, assemble, analyze, and record available evidence about a particular incident or other matter to inform interested persons within and outside the Coast Guard, providing information for decision makers who make decisions about the matter investigated. Administrative investigations are investigations of mishaps that are conducted per Reference (i).

e. Major Incident Investigations (MII) Board. A Major Incident Investigation (MII) is an administrative investigation required to inquire into the facts surrounding Class A and B mishaps that is conducted under an expedited timeline. The MII is conducted per Reference (j). MAR Part A contents and any other factual information obtained by the MAB must be shared with the MII Board President.

f. Aviator Evaluation Board (AEB). An AEB is convened following aviation mishaps per Reference (p).

g. Joint Service Mishap Analysis Boards. When a mishap involving resources from the Coast Guard and another U.S. military service occurs, a joint board is normally convened. Joint safety board convening decisions are made by the Coast Guard service safety chief, Commandant (CG-11), and the service safety chief of any affected military service. Reference (q) and (w) describes applicable DoD accident investigation and reporting requirements after a joint service mishap.

h. Coast Guard Auxiliary Aviation Mishap Analysis. Per Reference (r), the National Transportation Safety Board (NTSB) has the authority to investigate all Coast Guard Auxiliary Class A and B aviation mishaps. A Coast Guard representative (active duty and/or auxiliary) is assigned to assist and participate in the NTSB investigation. Commandant (CG-11) must determine if a separate MAB convening is necessary. Immediate initial reports to Commandant (CG-11) and Commandant (CG-113) are required to ensure timely NTSB notification. All Auxiliary aviation mishaps must be entered in e-AVIATRS regardless of class and type of analysis. See Reference (d) for Class C and D mishap analysis requirements.

i. Federal Aviation Administration (FAA) or National Transportation Safety Board (NTSB) Participation. The FAA or the NTSB, per Reference (r), can participate in military mishap analyses even if there are no civil aircraft involved. The FAA or the NTSB can request or elect to investigate or participate in any Coast Guard aviation mishap analysis when the event has potential FAA involvement, involves a FAA regulation or a FAA certifiable Coast Guard aircraft (commercially derived aircraft). Procedures governing such participation are contained in Reference (f). Contact Commandant (CG-113) for any event that might lead to or require FAA or NTSB involvement.

j. National Transportation Safety Board (NTSB) Mishap Investigations. The Coast Guard must coordinate with the NTSB following a mishap involving both civil and Coast Guard assets. Commandant (CG-113) must assign a Coast Guard coordinator to provide liaison between the two organizations. Procedures governing participation in NTSB mishap investigations are contained in Reference (q). Contact Commandant (CG-113) for any event that might lead to or require NTSB involvement.

(1) The Coast Guard coordinator and subject matter experts can be assigned as a sworn party to the NTSB investigating body. Contact Commandant (CG-113) for any event that might lead to or require NTSB involvement.

(2) Commandant (CG-11) can convene a mishap analysis concurrent with an NTSB investigation.

k. Coast Guard Mishaps in Foreign Countries or Involving Foreign Assets. Due to the differences in agreements and operational orders, all incidents occurring on foreign soil must be referred to Commandant (CG-113) for disposition. Units operating on a regular basis in foreign countries must work with the host activity for inclusion in their MRPs and to determine what role and responsibility the unit has after a significant operational mishap. The unit must be cognizant of, and prepared to

follow, any DoD, DOS, and North Atlantic Treaty Organization (NATO) or host nation requirements that are in effect. Units should investigate the possibility of establishing an MOU if operating in a foreign location on a routine basis in the absence of an existing host nation and U. S. Government agreement.

4. Appointment and Composition of Safety Mishap Boards. Mishap boards convened for safety mishap analysis are listed below summarizing the primary purpose, convening and/or appointment authority, composition, restrictions and support requirements. Members of the safety mishap board must not be assigned as a member of any board conducting an administrative or legal investigation for the same mishap and vice versa.

   a. Permanent Mishap Board (PMB). The primary purpose of the PMB is to conduct mishap analysis for all off-duty Class A & B and all Class C, D, and E mishaps. Units shall convene the PMB for all off-duty Class A and B, and all Class C, D, and E HIPO and operational mishaps. The PMB is comprised of unit personnel, usually at the Department Head level, and is convened by the unit CO/OIC. Upon notification of an on-duty Class A or B mishap, the unit must convene the PMB, initiate the MRP and commence mishap response until the MAB arrives. In some cases, Commandant (CG-11) might direct continued mishap analysis via the PMB. Member(s) conducting the mishap analysis need not be senior to the individual(s) involved in the mishap. The following positions or billets must be designated as members of the PMB:

      (1) PMB President. The SO, typically the unit Executive Officer/Executive Petty Officer.

      (2) Engineering Advisor. Typically the EO/EPO.

      (3) Operations Advisor. Typically the Operations Officer/Operations Petty Officer.

      (4) Technical Advisor(s). Depending on the circumstances of the mishap (e.g., weapons discharge, medical advisor, etc.).

      (5) Missionized Safety Assurance Force (MSAF). The primary purpose of the MSAF is to provide a safety and/or human factors trained SME to assist unit PMB mishap analysis. A MSAF member serves as a temporary member of the unit PMB to assist in the analysis and generation of the mishap report. MSAF members must hold a MSAF competency through completion of the Advanced Mishap Analysis and Reporting Course (100121). MSAF support for unit PMBs is normally provided remotely unless on-site assistance is requested due to the complexity of the mishap analysis. Remote or on-site MSAF assistance must be requested by the unit or it may be provided at the discretion of Commandant (CG-113). On-site support must be approved in writing by Commandant (CG-113) prior to any MSAF member travel.

      (6) Supplemental Members. Commandant (CG-113) or HSWL SC (se) can arrange for supplemental members (i.e. Standardization Team member, Medical Advisor, etc.) and additional technical expertise, if requested.

b. Commandant Mishap Analysis Board (MAB). The primary purpose of the MAB is to conduct mishap analysis for on-duty Class A and B mishaps or other high-interest mishap events that require an in-depth safety analysis. Commandant (CG-11) will consider mishap event circumstances and direct the appropriate level of safety analysis, including the convening of a MAB or other focused analyses. Commandant (CG-113) is authorized to appoint members and determine scope of MABs and other Commandant (CG-11) directed analyses. MAB members must hold a MSAF competency through completion of the Advanced Mishap Analysis and Reporting Course (100121). Exemptions from this training requirement must be approved by Commandant (CG-113). Once appointed, members must not be assigned any other duties. All unrelated duties and responsibilities must be put on hold or the member must request to be replaced. All MAB members are required to sign and comply with the provisions of a MAB Non-Disclosure Agreement provided by Commandant (CG-113). MAB composition includes the following members:

(1) MAB President. MAB Presidents are appointed according to most relevant leadership, operational, technical, and safety experience considerations. The MAB President must be senior to the personnel involved in the mishap and should be senior to the CO/OIC of the mishap unit. The MAB President must not include anyone who might have a conflict of interest with the mishap unit (e.g., chain of command, recently assigned, etc.).

(2) Medical Advisor. The Medical Officer's Mishap Report (MOR) is an essential part of a mishap investigation. The Medical Advisor, when assigned to the investigation, should collect the initial medical evidence and compile all available medical materials that could be used by the board as future evidence. This should include laboratory results, medical records, hospital admission forms, psychological profiles, autopsy reports, medical photographs, diagrams and any medical written opinions. A medical advisor trained to complete the MOR must be appointed for all operational Class A and B mishap analyses. Commandant (CG-112) must select the Medical Advisor. Medical Advisors are medical experts to support the MAB and may participate in the deliberations or interviews; however, CG-113 will determine if the Medical Advisor is a voting member of the MAB based on the circumstances of mishap.

(3) Safety / Human Factors Advisor. Commandant (CG-113) must appoint a safety professional with formal training in human factors analysis to serve as an on-site or remote safety/human factors advisor.

(4) Other Members and Advisors. All MAB members and advisors that handle privileged mishap information must sign and comply with the provisions of a MAB Non-Disclosure Agreement provided by the MAB President. The following personnel are appointed as MAB members, technical experts or advisors based on the circumstances of the mishap.

(a) Flight Safety Officer. A Flight Safety Officer (FSO) who is designated as an Accident Investigation Specialist (AIS) and qualified in the aircraft involved

in the mishap, or who is knowledgeable in the specific mishap event, must be appointed to aviation COMDT MABs. Commandant (CG-113) collaborates with unit commands to appoint the FSO member for aviation mishaps.

(b) Headquarters Program Representatives. Program representatives are appointed based on the mishap circumstances. Commandant (CG-113) collaborates with respective programs to appoint representatives.

(c) Standardization, Training, Engineering and Logistics Representatives. Standardization, training, engineering and logistics representatives are appointed based on the mishap circumstances. Commandant (CG-113) collaborates with respective programs to appoint representatives.

(d) Missionized Safety Assurance Force (MSAF). Members of the MSAF are appointed by Commandant (CG-113) to provide subject matter expertise across all operational communities (aviation, boat, cutter, DSF, and shore forces). CG-113 will solicit members assigned to unit PMBs, designated SOs/managers, and members with command cadre experience in the operational communities annually. MSAF members may be appointed as a MAB member based on the circumstances of the mishap.

(e) Subject Matter and Technical Experts. Subject matter and technical experts may be directed to assist MABs based on the circumstances of the mishap. Subject matter and technical experts **may** participate in the deliberations and interviews; however, they ***are not*** a voting member of the MAB. Requests for subject matter / technical experts are made to Commandant (CG-113).

(f) Recorder. Is not considered a member of the MAB and can be a junior officer or enlisted member.

(g) Non-Coast Guard Members. Commandant (CG-113), in consultation with the Coast Guard PM and the individual's parent organization, can designate personnel of other U. S. Armed Services or government agencies or military foreign nationals to serve as members of a Coast Guard MAB.

(5) Prohibited MAB members. Personnel who are prohibited from appointment to a COMDT MAB include:

(a) Personnel who are members of the fact-finding body conducting the legal or administrative investigation of the event.

(b) Personnel or crewmembers involved in the mishap.

(c) Personnel in the unit's direct chain of command.

(d) Personnel with a personal interest in the mishap that could potentially hamper their objectivity.

(e) Personnel related to any witness or mishap member.

c. MAB Supporting Commands. Supporting commands include any unit (including the mishap unit if feasible) that might be directed to support ongoing mishap analysis activities of a MAB or other investigative body. Supporting commands might be directed to provide the following support within the limits of available resources.

(1) Appoint a liaison officer to assist the MAB in obtaining accommodations and administrative support prior to arrival of the MAB.

(2) Requests for support might include, but are not limited to: work areas and office work space; computers with internet access; printers, copy machines, hard drives, fax machines; office supplies; paper supplies; telephone service; use of government vehicles; use of audio-visual equipment; procurement of additional supplies at mishap unit's cost as required; and administrative personnel to support the MAB on request or when ordered by the convening authority.

d. Commandant Safety Board (CSB). The primary purpose of the CSB is to review and adjudicate the MAR, endorsements, and other relevant information (e.g., MII report, etc.). When convened, the CSB must submit a report with recommended directed actions with assigned actions offices for VCG approval. VCG is the convening authority for all CSBs. The CSB consists of senior headquarters or FORCECOM members (O-6/O-5, GS-15/GS-14) with special knowledge of operations, medicine, engineering and safety. After convening a CSB, Commandant (CG-113) serves as the Executive Secretariat for VCG. The CSB includes the following members:

(1) CSB President. The Commandant (CG-7) program element is generally the CSB President (e.g., Commandant (CG-711), Commandant (CG-731), Commandant (CG-751), etc.). In some cases, other PMs can serve as CSB President (e.g., Commandant (CG-4), Commandant (CG-5), etc.).

(2) Program Members. Tripartite (Tri-P) representatives (Commandant (CG-4), Commandant (CG-7), Commandant (CG-113)) and other managers from programs identified in the MAR and linked to corrective actions (e.g. FORCECOM, CG-9, CG-112, etc.).

5. Mishap Analysis Process. The mishap analysis process should be tailored to the complexity and severity of the mishap. Factors influencing the scope and focus of the analysis are based on the severity of injury, extent of the property loss, and future mishap potential. The convening authority determines the depth of the analysis effort during the mishap board convening decision. Mishap board members are only permitted to discuss draft mishap analyses with fellow board members, the convening authority staff or authorized draft and final report recipients.

a. Procedures. General mishap analysis policy and procedures are included in this Section to guide unit safety personnel and mishap boards during the initial stages of mishap analysis. Commandant (CG-113) advises all MABs and HSWL SC (se) advises unit mishap analyses. Mishap analysis procedures and TTP are developed

and maintained by HSWL SC (se). Additional mishap reporting and analysis guidance is available on CGPORTAL (search box keywords: mishap analysis) or at http://www.dcms.uscg.mil/Our-Organization/Assistant-Commandant-for-Human-Resources-CG-1/Health-Safety-and-Work-Life-CG-11/Safety-and-Environmental-Health/Safety/Mishap-Guidance/.

b. Data Collection. The initial steps of the process focus on the collection of facts and evidence from the mishap unit, mishap crew, mishap site, witnesses; records; and medical, toxicology and/or autopsy reports, etc.

c. Human Factors Analysis. Human are the primary causal factor in mishaps. To ensure a comprehensive analysis of this leading cause of mishaps, the Coast Guard, along with DoD, mandates the use of the DoD Human Factors Analysis and Classification System (HFACS), Reference (m), to analyze all mishaps.

(1) MAB and CSB members must use the DoD HFACS and applicable HFACS codes in the MAR Part B and CSB report.

(2) MSAF members and PMBs should consider use of DoD HFACS to assess human factors influences during unit-level mishap analysis and reporting.

d. Toxicology.

(1) Class A and B Mishaps.

(a) Requirement. Toxicology testing must be conducted for all personnel involved in Class A and B mishaps, for mishaps with the potential of meeting or exceeding the Class B threshold, or for any mishap where toxicology might be relevant. Ancillary personnel (e.g., communications watch standers, SAR controllers, maintenance personnel, etc.) should also be considered. Specimen collection information must be reported by the PMB to the MAB and documented in the MOR.

(b) Timeline. Toxicology analyses must be completed within 2 hours to screen for alcohol, and 32 hours to screen for controlled substances, unless collection efforts will result in disruption of urgent operations or mishap response activities. A formal chain of custody must be maintained. Due to the perishable nature of this evidence, specimens should be collected while pending a decision to submit for analysis (exceptions apply; refer to Paragraphs E.5.d. (1). (f-h) for toxicological testing of Auxiliary, Civilian or Government Contract Employees).

(c) Armed Forces Medical Examiner System. Detailed procedures for the collection and shipment of approved specimens for toxicological analysis are governed by Armed Forces Medical Examiner System, Division of Forensic Toxicology. A copy of the guidelines is available through HSWL SC (se) or at https://health.mil/afmes.

(d) Analysis. In addition to screening for alcohol and controlled substances, toxicological analyses should also be directed toward any medications indicated by the medical history and environmental substances (such as carbon monoxide) as indicated by the nature of the mishap or event.

(e) Coast Guard Members. The command must ensure testing of all Coast Guard members directly involved in the mishap (e.g., key mission roles, operating controls, engaged in primary duties prior to or during mishap such as maintainers or bridge/ops/engineering watch standers, etc.).

(f) Auxiliary. See Reference (e) for information on testing of Auxiliary personnel.

(g) Civilians. Civilian employees may be subject to toxicological testing following accidents that meet specific criteria not governed under this Manual. Civilian post-accident testing guidance is located at http://www.dcms.uscg.mil/Our-Organization/Assistant-Commandant-for-Human-Resources-CG-1/Civilian-Human-Resources-Diversity-and-Leadership-Directorate-CG-12/Civilian-HR/Staffing-and-Recruitment/Civilian-Drug-free-Workplace-Program/.

(h) Government Contract Employees. Government Contract Employees must be tested per the terms and conditions of the applicable contract or if they consent, when their actions or inaction, in the commander's judgment, might have been a factor in the mishap sequence. Coordinate with the Contracting Officer to assist as needed.

(2) Class C, D & E Mishaps. Class C, D, and E mishaps do not normally require toxicology, however toxicology may be completed at the command's discretion. Toxicology analysis must be conducted for Class C, D, and E mishaps when:

(a) Coast Guard employee actions or inactions might have contributed to a Class C or D mishap involving public/civilian personnel or property; or

(b) The unit or chain of command is authorized to direct toxicology through administrative or legal actions, independent from safety analysis (suspected willful violations, negligence, etc.); or

(c) Upon notification of required toxicological testing under the provisions noted in Paragraph (a) and (b) above, testing of Coast Guard members, Auxiliary, Civilians and government contract employees mirror those indicated under Class A and B mishaps.

(3) 72 Hour Pre-Mishap History Worksheet. All members directly involved with the mishap, or who might have contributed to the mishap must complete a 72-hour pre-mishap history worksheet. This can be based on hearsay or third party accounts for mishap members who have died. The 72-hour pre-mishap history provides information on timing of activities including sleep and work periods,

exercise, as well as the consumption and type of food and beverages. This information is used to determine the physical and cognitive state of members leading up to the mishap. The 72-hour pre-mishap history is only required if a MAB is convened, but highly recommended for Class C, D and E HIPO and operational mishaps. The 72-hour information is non-privileged (factual) information unless provided under an authorized promise of confidentiality.

(4) Analysis of the Facts and Evidence. Analysis is a sorting and pulling together of facts and evidence to determine the causes and contributing factors of the mishap. A list is made of possible scenarios (theories) that are supported by facts. The theories are then tested. If further information is necessary to either prove or disprove a theory, then the information should be obtained.

(a) If the Board discovers information with potentially significant Coast Guard-wide implications, they must immediately notify Commandant (CG-113) regardless of whether or not such information is associated with a mishap currently under analysis.

(b) Use the HFACS framework to identify human factors influences in mishap.

(5) Final Analysis. Once all the possible information has been gathered, the mishap board must determine the causal factors or the most probable causal factors and develop conclusions. The preponderance of information takes precedence. Not everything must be proven beyond a shadow of a doubt. Expect anomalies that cannot be explained. Often, only the most likely causes are all that can be cited.

(6) Recommendations. Recommendations are proposed solutions related to the causes of the damage, fatalities, or injuries in the mishap sequence of events. Recommendations should be short, concise statements requiring no explanation, and they should follow in a natural sequence after the analysis and conclusions. Unit-level recommendations (Class C, D, and E) should indicate local actions initiated to address known issues through appropriate process (e.g., work orders, publication change requests, engineering change proposals, etc.).

F. Mishap Analysis Management.

1. Privileged Safety Information.

a. Discussion. Safety privilege is based on a national defense need for rapid and accurate assessment of the causes of joint service (DoD and Coast Guard) mishaps to prevent a recurrence and maintain mission readiness. Safety privilege ensures non-disclosure of certain types of information outside of the mishap analysis process and creates restrictions on the handling and releasing of such information to support mishap prevention purposes only.

(1) Failure to observe the prohibitions and mandatory provisions of this Section by military personnel may be a violation of Article 92, UCMJ. Other UCMJ articles may apply to military personnel who use a privileged safety report as an

implement to punish a military member. Violations by civilian employees may result in administrative disciplinary actions without regard to applicable criminal or civil sanctions for violations of related laws.

(2) Privileged safety information refers to information that is exempt by case law from disclosure outside the military safety community. The military safety privilege is judicially recognized and protects the mishap analysis process. The Commandant has determined that privileged information derived from any Coast Guard mishap analysis process is restricted to use for safety purposes and must only be disclosed to personnel who have a direct responsibility for mishap prevention.

(3) The Coast Guard does not use privileged safety information as evidence for punitive, disciplinary, or adverse administrative actions, for determining the misconduct or line-of-duty status of any person, in aviator evaluation boards, to determine liability or liability in claims for or against the United States, or in any other manner in any action by or against the United States.

(4) Privileged safety information contains two primary sources of information with specific characteristics and related collection and handling restrictions.

(a) Any information or products derived from the mishap analysis deliberative process.

(b) Witness statements taken under an authorized promise of confidentiality.

b. Authorized Application of Safety Privilege. Safety Privilege asserted under this Manual only applies during the post-mishap process.

(1) Safety privilege derived from the safety deliberative process applies only to members of a convened MAB or designated safety personnel (e.g., PMB, SO, FSO, etc.) engaged in mishap analysis activities.

(2) Safety privilege linked to witness statements taken under an authorized promise of confidentiality applies only when granted by a MAB President or other safety mishap board members specifically granted an exception for the same authority by Commandant (CG-113) under the provision of Paragraph F.1.e.(4).

c. Identifying Privileged Information. Privileged information and material includes:

(1) Findings, evaluations, analyses, opinions, conclusions, recommendations in the final MAR and unit mishap reports; and other products of the deliberative process of safety investigators, mishap boards, endorsers and reviewers.

(2) Drafts and final diagrams and exhibits if they contain information that depicts the analysis of safety/mishap investigators.

(3) Notes taken by mishap investigators during interviews or in the course of their analysis, whether or not they are incorporated, either directly or by reference, in the final report.

(4) Life science (biological) material that contains analysis by a mishap investigator or incorporate privileged safety information.

(5) Photographs captioned or staged by the mishap board where such captions include speculation, opinions or conclusions, if the caption cannot be removed or redacted from the photograph.

(6) Videotapes of simulated, computer generated or reenactments of the mishap are privileged if they are made with input from mishap board members or with knowledge of privileged mishap information.

(7) Expert opinions and conclusions obtained by the mishap board.

(8) Animations that incorporate privileged safety information.

(9) Medical Officer's Report (MOR) that contains medical analysis. Some factual data enclosures (e.g., medical records, laboratory tests, etc.) are non-privileged.

(10) The statements, reports or information given pursuant to an authorized promise of confidentiality, and any direct references to any such statements or information in a mishap report. Policy requirements and proper handling of privileged information derived from witness statements based on grants of confidentiality are provided in Paragraphs F.1.e. and F.1.f.

d. Identifying Non-Privileged Information. Non-privileged information and material consists of factual evidence, including:

(1) Pieces of wreckage and other recovered items.

(2) Records, such as charts, flight plans; weather reports and briefings; pilot, aircraft, and vessel log books; aircraft, vessel, shore facilities, and vehicle maintenance records; hoist cam recordings; and, weight and balance records.

(3) Transcripts of tape recordings from control towers, flight service stations, and air traffic control centers radio transmissions.

(4) Animations made exclusively from recorder data (including Military Flight Operations Quality Assurance data) are not privileged.

(5) Photographs without captions or any other manipulations/staging completed by the MAB. Photographs depicting a measuring device or object displayed with mishap evidence for the sole purpose of demonstrating the size or scale of the evidence are not considered privileged safety information.

(6) Photos, videos, sketches, or reports documenting or depicting the mishap scene or wreckage, including flight deck videos and non-official videotapes and films made by individuals not assigned to a safety board.

(7) Laboratory analyses (factual data, but not opinions, recommendations or conclusions).

(8) Written witness statements provided to the MAB without the "Promise of Confidentiality."

(9) 72-hour histories provided to the MAB without the "Promise of Confidentiality."

(10) Medical records and laboratory tests, but not the MOR or analysis.

(11) Other factual data.

(12) Transcripts of relevant portions of cockpit voice recorders. Although the un-analyzed animation with voice data is NOT privileged, actual intra-cockpit voice communication has legal protection as private communication. This product is handled as FOUO and copies are NOT releasable to the public. All requests for access to intra-cockpit voice communications must be coordinated through Commandant (CG-LGL). Upon approval, Coast Guard members can use these products to assist with briefing interested parties such as family members, analysts, or investigators. The products can be viewed under supervision, but MUST NOT be copied or released.

e. Grants of Confidentiality. The grant or promise of confidentiality is used to encourage free and open disclosure of safety information during a safety analysis. Military and federal courts recognize that the information given under the promise of confidentiality is protected from release.

(1) The goal of the safety privilege is to foster trust between witnesses and mishap analysis team members, thereby eliminating witness's fear of reprisal or embarrassment to themselves, their fellow service members, their commands/employers, or others. As witnesses are more forthcoming with information, mishap analyses can more accurately identify causal factors which leads to more realistically targeted mishap prevention strategies while, at the same time, prevents undue speculation regarding mishap causality.

(2) Offers of confidentiality are made to any witness, analyst, manufacturer, or any other person who can provide information for mishap prevention purposes.

(3) Confidentiality must only be offered in order to ensure forthright cooperation of the witness and must not be given on a blanket basis to all witnesses.

(4) Safety privilege linked to witness statements taken under an authorized promise of confidentiality applies only when granted by a MAB President or other safety mishap board member specifically granted an exception for the same authority

by Commandant (CG-113). Requests for exceptions for this authority (normally other MAB or unit PMB members) can be requested when a key witness refuses to provide information unless granted a promise of confidentiality. This exception applies only when seeking information involving complex systems, military unique items, or military unique operations or exercises. Requests for this exception must be sent in writing or email to Commandant (CG-113).

(5) Additional requirements for promises of confidentiality include:

(a) All instances in which a witness provides information pursuant to a promise of confidentiality must be documented using the Witness Promise of Confidentiality Form. A Witness Promise of Confidentiality form can be obtained by contacting HSWL SC (se).

(b) Promises of confidentiality must be explicit and cannot be implied from the MAB President's status or function.

(c) Promises of confidentiality must be limited to the information provided for each instance that confidentiality is granted.

(d) The MAB must inform the witness that the promise of confidentiality applies only to information given to the MAB. If the witness provides a similar or identical statement to another investigative body, that statement, as a part of a non-safety analysis, is not protected from release by the safety privilege.

(e) If a MAB member suspects or discovers evidence of potential criminal activity, the safety analysis must stop and no further offers of confidentiality are permitted. The MAB must immediately contact Commandant (CG-113) who must instruct the MAB President to either cease or continue interviewing the individual after consultation with Commandant (CG-LGL).

f. Handling Privileged Information Derived From Offers of Confidentiality. When an offer of confidentiality is made by an authorized representative, the following factors apply to the handling of resulting privileged information:

(1) Confidential statements must not be released to the public.

(2) Confidential statements must be used solely for safety and mishap prevention purposes and must not be used as evidence to support disciplinary or adverse administrative action.

(3) Chain of command members are permitted to review the final report, including confidential statements and privileged material derived from the safety analysis deliberative process.

(4) Confidentiality does not apply if a member intentionally deceives the board.

(5) Confidential statements or privileged material derived from the safety analysis deliberative process can be used pursuant to a valid court order on behalf of a defendant in a criminal trial.

2. General Mishap Analysis Management. When managing mishap analysis activities, the sole purpose of mishap prevention must be continuously emphasized and carefully guarded. Persons leading mishap analysis efforts must diligently manage the collection, processing and release of all of mishap-related information and evidence to ensure proper handling. Additional mishap analysis management policy considerations include:

a. Restrictions/UCMJ Violations. All Coast Guard personnel are prohibited from violating the privileged character of the mishap report in any way, whether by unauthorized access, duplication or retention of copies or original documents or through unauthorized disclosure of any part of the safety analysis report. Distribution of privileged safety information to any person or any command not specified in this Manual or specifically authorized by Commandant (CG-11) is prohibited. Such violations may be punishable under Article 92, UCMJ, and may be grounds for disciplinary action under civilian personnel regulations. Per the Doctrine of Safety Privilege, the following restrictions must be observed:

(1) Completed Report. Do not append privileged safety information from a MAR to any other document, unless the sole purpose of such a document is the prevention of mishaps.

(2) Reproduction of Report. Reproducing any part of a MAR or disclosing the contents thereof by means of giving testimony relative to the MAR is prohibited without the express written permission of Commandant (CG-113).

(3) Adverse Action. Do not use privileged safety information to support disciplinary or adverse administrative action, to determine the misconduct or line-of-duty status of any personnel, as evidence before an Aviator Evaluation Board (AEB), promotion board, special board or other personnel board.

(4) Litigation of Claims Involving U. S. Government. Do not use privileged safety information to determine liability in administrative claims for or against the Government or in any litigation on behalf of the Government.

b. Safeguarding Mishap Information. All personnel leading mishap analysis activities (e.g., MAB President, SO, FSO, etc.) must ensure that all personnel with knowledge of mishap analysis contents understand the provisions and restrictions outlined in Sections F and G. The MAB President must ensure that all information and evidence collected during the safety analysts, privileged or not, is not released outside safety channels except per this Chapter and only upon approval of Commandant (CG-11).

c. Non-Disclosure Agreement. The MAB President must confirm that all MAB members and advisors with access to privileged information read and sign a MAB Non-Disclosure Agreement.

d. Coordination with the MII and other Investigative Bodies. Personnel leading mishap analyses might encounter concurrent investigative activities that share the common goal of fact-finding; however, they serve different purposes within the Coast Guard and must be treated differently. Safety mishap analyses are conducted solely for future mishap prevention. The MII is conducted under the provisions of Reference (j). Administrative investigations are conducted under the provisions of Reference (i). When informed of a concurrent investigation, the following policies apply:

(1) The MAB president must cooperate with the MII President or designated leaders of other investigative bodies, respectfully coordinating activities and information exchanges as allowed within the policy detailed in this Chapter.

(2) The decision to pursue or not pursue an administrative or criminal investigation must be made before the CO or chain-of-command has access to privileged information contained in safety mishap analyses.

(3) Do not add remarks concerning administrative or legal proceedings being conducted in a MAR. The report of the proceedings of administrative or legal investigations must not be appended to or made a part of the MAR, e-MisReps or e-AVIATRS report.

3. Mishap Evidence Management. When managing mishap analysis activities, the sole purpose of mishap prevention must be continuously emphasized and carefully guarded. Persons leading mishap analysis efforts must also diligently manage the safe and proper collection, processing and release of mishap evidence. Additional mishap evidence management policies include:

a. Safety of Personnel. Safety of personnel (such as first responders) and control of HAZMAT must take precedence over any investigation activities. The command is permitted to remove wreckage interfering with essential mission activities or causing a hazard at the mishap scene. If wreckage must be moved prior to the arrival of the mishap board, the site must be thoroughly documented (photographs, video) prior to moving, circumstances and time permitting.

b. Coast Guard Material/Wreckage. The MAB has inherent priorities over other activities and investigations connected to the mishap (except criminal), including the right to impound Coast Guard property involved in the mishap.

c. Medical Evidence. The MAB is given access to many forms of medical evidence, including personal medical information and records. MAB members must handle all such information under the requirements of the Health Insurance Portability and Accountability Act (HIPAA) and the Privacy Act.

(1) General Medical Reporting. Include in the report only that medical and personal information that is relevant to the mishap to avoid unnecessary violation of an individual's privacy.

(2) Medical Officer's Report (MOR). The MOR is a privileged medical analysis based on all the medical and non-medical information available concerning the mishap. The MOR must be delivered as a separate part of the MAR as it contains information protected under the provisions of safety privilege, HIPAA and the Privacy Act.

d. Human Remains. The MAB Medical Advisor must be aware of the location and status of all human remains (e.g., awaiting autopsy, return to family, etc.) and must ensure the AFMES is properly informed. If the mishap occurs off a military reservation, the Medical Advisor must ensure AFMES is given the contact information for civil authorities exercising jurisdiction over the human remains. AFMES contacts, such as the Medical Examiner or an Analyst, can be reached through the following website: http://www.afmes.mil.

e. Autopsies. It might be necessary to perform an autopsy in order to determine the causal factors in a fatal mishap. Fatal mishaps can be caused by hypoxia, toxic gas, and disabling occurrences such as heart attacks and other physical disabilities that can only be determined by autopsy. Discovery of these physical factors not only can determine the true causal factors, but can also provide medical authorities with information for the establishment of future personnel physical requirements. Autopsies also provide PMs and design engineers with information for improving the crash survivability of cockpits, cabins and compartments.

(1) Authorization to Perform Autopsies. The authorization to perform an autopsy after a fatal mishap might involve one or more of three parties: the next of kin, local civil authorities, and the CO. If death occurs on board a Coast Guard unit, and if the state has not retained concurrent legal jurisdiction at that unit, then the CO can authorize an autopsy. Under these circumstances, the permission of the next of kin is not required; nevertheless, it is desirable that every effort be made to obtain concurrence from the next of kin. If death occurs within the jurisdiction of civil authorities, authorization is the responsibility of the civil authority and might require permission of the next of kin, depending on local law. The CO must be familiar with the reasons that require an autopsy and, where responsibility for authorizing an autopsy rests with local authorities, must advise those authorities of the need for an autopsy.

(2) Personnel to Perform the Autopsy. Whenever possible, autopsies for military members should be performed by qualified personnel assigned through the AFMES. The phone number for assistance (24/7) at AFMES is (302) 346-8648. Callers can inquire whether an autopsy is required or to request support for toxicological or autopsy data: http://www.afmes.mil/. Contact Commandant (CG-112) for additional assistance.

(3) Autopsy Report. The autopsy report is forwarded as part of the original MOR. A copy of the autopsy report must be forwarded to the AFMES. Contact AFMES (http://www.afmes.mil under Contact Us) prior to mailing a report in

order to obtain the proper delivery address/method. Contact Commandant (CG-112) for additional assistance.

4. Mishap Witness Management. Safety analysis boards have priority access to witnesses over all other investigative bodies. Priority access ensures that the mishap board hears the initial witness recollections and impressions. The command must make all participants available to safety analysts upon request of the mishap board. The MAB President must advise the command when participants are no longer needed.

   a. Witness Restrictions.

      (1) A witness in other investigations, external to the safety mishap analysis, cannot be questioned with respect to the content of his/her statement(s) to the safety mishap board. This does not preclude the non-safety mishap investigator(s) from questioning the same witness in the same area(s).

      (1) Although a member of a safety mishap board can be called as a witness in a legal investigation of the same mishap, such a procedure must be avoided, if possible. If called, however, such a person cannot be asked or required to divulge the findings or recommendations of the safety mishap board. These restrictions also apply to any person with knowledge of the MAR contents.

   b. MAB Witness Interviews.

      (1) Witnesses must not testify under oath.

      (2) The MAB must provide a list of all witnesses (including witnesses promised confidentiality regardless of whether the MAB received their respective statements to writing). The list should include telephone numbers and description of each witness's role in the mishap (e.g., crewmember, maintainer, observer, or Next-of-Kin/family member) to aid in identifying witnesses the MII Board desires to interview.

      (3) If a MAB member ascertains that Coast Guard personnel questioned in the analysis might be guilty of criminal misconduct, or criminal activity might play a role in the mishap, he or she must stop the interview and contact Commandant (CG-113) immediately.

      (4) Do not accept written statements. MAB members must take verbal statements from individuals related to the mishap and write a summary. Verbatim transcripts of interviews must not be made.

      (5) MAB notes based on witness interviews are deliberative and are protected under the safety privilege as described in this Section. This information must not be shared with other investigative bodies.

      (6) The MAB must not make any determinations regarding the fitness of participants to be returned to normal duties. MAB members must not participate in Aviator

Evaluation Boards (AEB). It is the responsibility of the command and medical authority (Flight Surgeon or Medical Officer not assigned to the MAB) to determine whether a member is fit to return to duty.

c. PMB Witness Interviews.

(1) Witnesses must not testify under oath.

(2) If a board member ascertains that Coast Guard personnel questioned in the analysis might be guilty of criminal misconduct or criminal activity might play a role in the mishap, he or she must stop the interview and contact the unit command.

(3) Written witness interview statements and written interview transcripts are not privileged. Board member notes are privileged under the deliberative safety process as detailed in Paragraph F.1.c.

(4) PMBs are not authorized to grant confidentiality.

5. Obtaining Technical Assistance. Commandant (CG-113), Commandant (CG-4), or Commandant (CG-7) support is available for coordinating assistance from other services or agencies, technical assistance, laboratory analysis, additional funding requirements, etc., beyond the capability of the individual unit or respective chain of command.

a. Technical Experts.

(1) Technical Experts and others assisting the MAB, while not members of the MAB and not a part of the deliberations, still work for the MAB President, not Commandant (CG-113), the CSB or their parent organization. This applies to Coast Guard and DoD military and civilian personnel as well as contractor and manufacturer representatives.

(2) The MAB President must confirm that all MAB technical advisors with access to privileged information read and sign a MAB Non-Disclosure Agreement.

(3) Forms and further information is available by contacting HSWL SC (se).

b. Technical Experts Report. Technical experts must provide a written report (signed paper copy and electronic copy) detailing the results of their work. They should summarize their observations, analysis and calculations based solely on physical evidence and other factual information. A specific report format is not required.

(1) The MAB must review all reports to ensure they do not contain confidential statements or privileged material derived from the safety analysis deliberative process. Technical experts can also provide analyses and conclusions regarding privileged information, and reports should be marked as such.

(2) Include any conflicting reports provided technical experts or laboratories in the MAR. The MAB must explain why one report was determined as more applicable and why the opposing views were discounted.

6. Mishap Wreckage Management. The MAB President must take the following actions with mishap wreckage and related materials:

a. Minimize working documents generated by the MAB. Documents acquired or created by the MAB, but not used as enclosures, must be destroyed or deleted along with any excess privileged materials not required for the formal report. This applies to all written and electronic notes and statements, photographs, diagrams, videotapes, compact discs (CDs) and DVDs, etc. Report drafts must be destroyed. If there is a need to retain any document for briefing purposes, place such documents in a folder marked "MAB Privileged Analysis Materials." The MAB President must safeguard all retained material until release of the FSM. See Paragraph G.4. for additional retention and disposition requirements.

b. Return all original documents and records to their proper custodian, after making necessary copies.

c. Once the MAB has collected all necessary evidence from the assets involved in the mishap, the MAB President informs Commandant (CG-113) that the assets can be released. Commandant (CG-113) is the final asset releasing authority.

d. Commandant (CG-113) must notify other boards, such as an MII Board, that the MAB has completed initial analysis and the wreckage is available for examination. Commandant (CG-113) must notify Commandant (CG-4) and Commandant (CG-7) for asset disposition. Asset records should be passed along with custody of the wreckage.

e. Do not return wreckage or analyzed materials to Commandant (CG-113).

f. Provide post-tear-down request instructions for all components sent for tear down or analysis. The MAB must remind the laboratory not to destroy or release the components to anyone until Commandant (CG-113) provides written approval.

g. All wreckage or involved components from Class A mishaps must be retained and stored at the mishap unit or other appropriate storage area until released by Commandant (CG-113) for appropriate disposal or repair.

h. After release, the MAB must return Coast Guard equipment not damaged beyond repair to the owning unit or organization. Likewise, once released, usable personal equipment or protective gear that is Coast Guard property should be returned to owning unit, subject to the needs of the MAB. Items should be clearly marked to indicate their involvement in the mishap to ensure the necessary inspections are accomplished prior to reissue.

i. Government issued clothing and equipment worn by a deceased member must not be stored with wreckage or released as personal effects but must be destroyed after all analysts and investigators have completed their examination.

j. Personal items impounded as evidence must be turned over to another board, if so requested. Otherwise, personal effects must be returned to their owner or next of kin.

k. Disposition of autopsy reports/photographs and toxicology test results must be handled per Reference (b). Contact Commandant (CG-112) for assistance.

l. MAB members, mishap crewmembers or unit personnel must not retain any wreckage material.

m. Service, health and training records, and flight logs for missing or deceased personnel should be handled per Reference (s).

G. Safety Information Management. This Section addresses the use and restrictions regarding safety information management and how all personnel must ensure that such information is properly handled, released and/or disseminated.

1. Administrative Safeguards. To ensure proper handling of safety information, use the following notices and markings when preparing mishap reports and other safety correspondence under the provisions of this Chapter:

a. Unit Mishap Messages and MAB Progress Messages (e.g., 72-hr, updated, adjournment, etc.). The first lines of mishap messages must include:

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c. Mishap Analysis Reports (MARs). The MAR must include all cover pages, footers and headers included in the MAR template provided to the MAB by Commandant (CG-113) or HSWL SC (se).

d. Endorsements. The bottom of each page of all endorsements must include.

WHAT FOLLOWS CONTAINS PRIVILEGED SAFETY INFORMATION USE FOR MISHAP PREVENTION PURPOSES ONLY

e. CSB Report. The bottom of each page of the CSB Report must include.

WHAT FOLLOWS MAY CONTAIN PRIVILEGED SAFETY INFORMATION USE FOR MISHAP PREVENTION PURPOSES ONLY

2. Release of Mishap Information. The paragraphs below address release of mishap information for other than mishap prevention and training purposes. All mishap reports must be treated as FOUO with unique handling restrictions to ensure that commanders and safety personnel can obtain accurate mishap information, while carefully protecting the Coast Guard safety privilege and other sensitive information. Direct requests for exceptions from the provisions below to Commandant (CG-113).

a. General Policy References.

(1) Privileged mishap report elements identified in Paragraph F.1.c. of this Chapter are releasable per the provisions in this Section.

(2) Non-Privileged mishap report elements identified in Paragraph F.1.d. of this Chapter are releasable per the provisions in this Section.

(3) The provisions of References (g), (k), and (o) govern the release of information not contained in the MAR.

(4) The provisions of Reference (i) govern release of information contained in the report of an administrative or legal investigation.

(5) The provisions of Reference (j) govern release of information contained in the report of a Major Incident Investigation (MII).

b. Requests for Release of Mishap Information from Persons Involved in Mishaps. References (i) and (j) permit releasing of administrative investigation or MII report information to persons directly involved in mishaps.

c. Briefings to Next of Kin and Seriously Injured Personnel. References (i) and (j) permit releasing of administrative investigation or MII report information to brief next of kin and seriously injured personnel.

d. Subpoenas for Release of Mishap Information. Subpoenas for release of mishap information for use in civil or military criminal proceedings, anticipated litigation, or

in administrative claims against the government, must be referred to the Office of the Judge Advocate General Commandant (CG-094). This also applies to requests for release to the U. S. Department of Justice.

e. Requests for Privileged Information by Congress. Pursuant to a 1989 agreement between DoD and the House Armed Services Committee, upon personal request from the Chairman or Ranking Minority Member of the Senate or House Armed Services Committees, the Head of the DoD Component, or for the Coast Guard, the Commandant, arranges a briefing of the requested safety information to the Chairperson and Ranking Minority Member. The Chairperson and Ranking Minority Member can receive a briefing upon or review the requested portions of the privileged safety report during the briefing but must not be provided advance copies and must not keep or copy any portion of the report.

f. Restrictions on Release of Privileged Mishap Information. The following general restrictions apply to the release of privileged safety information:

(1) Do not use privileged safety information to support disciplinary or adverse administrative action, to determine the misconduct or line-of-duty status of any personnel, or as evidence before any administrative board.

(2) Do not use privileged safety information to determine liability in administrative claims or litigation, whether for or against the Government.

(3) Do not release privileged safety information in response to FOIA requests under Reference (o), or in response to discovery requests, subpoenas, court orders, or other legal process except as provided in this Chapter.

(4) Individuals with knowledge of the content of MAB reports are prohibited from releasing that information, except under the provisions of this Chapter.

(5) MAR Part B information is limited to release for safety and mishap prevention purposes only. Distribution of non-redacted Part B information is limited to the endorsing chain and CSB.

g. Security Classification. Per Reference (o), the MAR and other mishap report information are FOUO. Do not classify MARs unless they contain information requiring classification in the interest of national defense or security. When preparing these reports separate the classified material so that the remainder of the report remains unclassified. Witness “Grants of Confidentiality” do not refer to security classifications defined in Reference (n).

h. The Privacy Act of 1974. Requires that all information that can be retrieved by an individual’s social security number, name, or some other identifying particular assigned to the individual, be furnished or made available to the individual unless the system manager has authorized denial of access to a record.

(1) Requests for information maintained in a system of records as defined by the Privacy Act must be forwarded to Commandant (CG-611).

(2) The Privacy Act specifically prohibits the release or dissemination of information from a mishap record that pertains to an individual, except as authorized in the Act.

(3) In order to prevent the release of privileged safety information pursuant to a Privacy Act request, it must not be maintained in a system of records from which it can be retrieved by the name, or any other personally identifiable information, such as the social security number, of an individual.

i. The Freedom of Information Act (FOIA). Requires that all Federal agencies provide the fullest possible disclosure of information to the public, and places the burden on the federal agency to justify withholding any requested information.

(1) Requests for mishap information made by clear implication or expressly as per FOIA must be forwarded to Commandant (CG-611).

(2) Privileged safety information must not be released pursuant to FOIA as it is exempt from release under the authority of 5 U.S.C. § 552(b)(5). The Deliberative Process Privilege must be cited to protect release of the deliberations of board members, experts, and endorsers. The special armed forces safety privilege must be cited to protect witness information collected under a grant of confidentiality.

(3) Personal information must not be released pursuant to FOIA as it is exempt from release under the authority of 5 U.S.C. § 552(b)(6).

(4) Signed written statements provided without a properly executed promise of confidentiality can be collected and are discoverable under the FOIA.

3. Dissemination of Safety Information. Release of mishap information for mishap prevention and training purposes is addressed in the below paragraphs.

a. Dissemination of Essential Safety Information. Commandant (CG-113) and HSWL SC (se) disseminate essential safety information received from mishap reports required by this Chapter. Essential safety information is that mishap information necessary to share in order to prevent recurrence of the same or similar type mishap (e.g., directed actions, recommended actions, lesson learned, etc.). This information can be mishap specific in nature, such as an equipment design problem, or it can be conceptual in nature, such as a management system problem. Minimum distribution must be to the appropriate controlling custodians for the affected resource/aircraft/vessel community. In no case must the fact that information is privileged safety information inhibit the dissemination of essential safety information. Should essential safety information include privileged safety information, and that information has not been adequately disseminated to those who need it, Commandant (CG-113) must take one of the following actions (listed in the order of preference):

(1) Extract the essential safety information from the privileged safety information and disseminate only that information (e.g., articles in safety periodicals, safety advisory messages, newsletters, correspondence recommending corrective action, etc.).

(2) Sanitize the information, removing any identifying data from the privileged safety information that could connect it to a particular individual, organization, or mishap event. Circulate the essential safety information via articles, periodicals, case studies, etc.

b. Dissemination for Training Purposes. Commandant (CG-113) and/or HSWL SC (se) can provide selected mishap information to FORCECOM for consideration and dissemination to the respective training programs (e.g., Aviation Training Center (ATC), Prospective CO/XO School, etc.) for integration into training.

c. Dissemination of Mishap Information to Coast Guard Members. Coast Guard members must submit a written request to Commandant (CG-113) to obtain access to privileged or sensitive mishap information for safety training or mishap prevention purposes.

(1) Requestors must specify what information is desired and the intended use of the information (i.e., Crew Resource Management (CRM) training, safety stand down, etc.).

(2) Requestors must acknowledge the need to protect any privileged and sensitive safety information from unauthorized use or release, including litigation, and sign a non-disclosure agreement provided by Commandant (CG-113) prior to obtaining access to such information.

(3) Commandant (CG-113) considers and approves requests for mishap information on a case-by-case basis. Requests for aggregate mishap data are normally approved without restrictions. Requests for privileged and sensitive mishap information require additional review and sanitizing prior to release.

(4) Information derived from promises of confidentiality must not be released.

(5) Requestors must not retain any specific mishap information beyond the period required for its intended use. Upon completion of intended use, all obtained safety files must be deleted and any printed materials must be disposed of per Reference (t).

d. Dissemination of Auxiliary Aviation Mishap Information. Auxiliary District Flight Safety Officers (ADFSOs) and Air Station FSOs are encouraged to work cooperatively to facilitate the viewing of aviation mishap messages for Auxiliarists. ADFSOs should coordinate regular visits to Air Stations and facilitate FSO support during Auxiliary training events to provide briefings and viewing of mishap messages. Auxiliarists are encouraged to view Coast Guard Auxiliary aviation mishap messages in their entirety, and these should be available for review through

the Air Station FSO. Abbreviated messages must be distributed to Auxiliarists via the Auxiliary Aviation Standardization (STAN) Team and the ADFSO.

(1) Coast Guard aviation mishap messages contain privileged information and are classified FOUO, and, therefore, cannot be transmitted outside protected Coast Guard computer systems. The Coast Guard e-AVIATRS generates an abbreviated mishap report containing only factual data that is approved for release outside the Coast Guard system.

(2) While Auxiliary review of mishap messages is authorized and encouraged, accountability of these documents must be emphasized. All members of team Coast Guard are reminded that these documents must be controlled and protected from unauthorized copy or distribution in order to maintain the integrity of the Coast Guard Safety Program and the continued promotion of aviation safety.

e. Dissemination of Privileged Information to DHS or Coast Guard Contractors. Coast Guard contractors can access privileged safety information in furtherance of an articulated safety purpose related to specific projects or contracts. Contractors requesting access to any privileged safety information must:

(1) Identify the privileged safety information at issue.

(2) Articulate the reason(s) why he or she needs access to it and describe permitted uses.

(3) Acknowledge the need to protect it from unauthorized uses or release, including litigation, and sign a non-disclosure form. Further information and current forms are available by contacting HSWL SC (se).

(4) Acknowledge that access to the privileged safety information is granted only to those employees of the contractor with a need to know.

(5) Agree to return or destroy, and include evidence of destruction, any information provided under the agreement when no longer requested or required.

(6) Acknowledge that violating the terms of the nondisclosure agreement might result in suspension of access to privileged safety information and any other sanctions allowed under the contract or law.

(7) In addition to the non-disclosure form referenced above, prior to receiving the privileged safety information, the contractor must require all contractor employees with access to sign a non-disclosure agreement. Further information is available by contacting HSWL SC (se).

(8) Contractors are not permitted to access statements obtained pursuant to a promise of confidentiality.

f. Sharing Privileged Safety Information with Foreign Military Safety Agencies. Consistent with the Procedures for Negotiating and Concluding International Agreements, COMDTINST 5710.3 (series), the Commandant of the Coast Guard can establish reciprocal international agreements for sharing relevant safety information with the military safety agencies of allied or partner nations for mishap prevention purposes. Sharing is permitted only when adequate protection of privileged material exists, and when the recipient agency agrees to provide similar safety information to the Coast Guard.

(1) Whenever appropriate, military safety agencies should share non-privileged information such as aggregate data or sanitized reports in lieu of privileged reports.

(2) Statements provided under a promise of confidentiality must not be shared.

(3) Sharing Privileged Safety Information with Non-DHS U. S. Government Agencies.

(4) The Coast Guard can establish reciprocal formal agreements for sharing relevant safety information with other Federal agencies for mishap prevention purposes. Sharing is permitted only when adequate protection of privileged material exists, and when the recipient agency agrees to provide similar safety information to the Coast Guard.

(5) Whenever appropriate, the Coast Guard should share non-privileged safety information such as aggregate data or sanitized reports in lieu of privileged reports.

(6) Statements provided under a promise of confidentiality must not be shared.

(7) Commandant (CG-11) must ensure compliance with the provisions of this Chapter and develop a formal agreement with the Federal agency prior to sharing either privileged safety information or sanitized information. The agreement must, at a minimum:

(a) Specify the nature and detail of the safety information to be shared.

(b) Include an agreement by the Federal agency that its personnel must use the shared safety information for the sole and exclusive purpose of mishap prevention, and that the information must not be used or disseminated further.

(c) Specify that, if the Federal agency fails to safeguard shared safety information, such information must be returned and future sharing of such safety information must be suspended until acceptable measures to safeguard safety information have been re-established.

(d) Specify that, if the Federal agency fails to provide relevant safety information under terms of the agreement, the agreement entered into to share information under authority of this provision can be canceled.

4. Recording, Retention and Disposition of Safety Information.

a. Mishap Data Recording.

(1) All reportable mishaps must be entered into Coast Guard electronic mishap reporting database systems (e.g., e-MisReps and e-AVIATRS) as described in Section D of this Chapter. Reportable Coast Guard mishaps are considered recordable under federal law per Reference (c). Reference (c) also mandates recording of time away from work; light, limited, and restricted duty injuries; and occupational illnesses for preventive efforts.

(2) Mishap records include work-related injury and illness logs, mishap reports, analysis records, and other files maintained in any format that summarize mishaps involving injuries or property damage, track safety reports and corrective actions, and provide a single reference for trend analysis.

b. Mishap Data Retention.

(1) Mishap records maintained below the HSWL SC (se) level must be made available when review is desired or required by the chain of command. All mishap reports, work-related illness and injury logs, mishap records, files, and summaries must be retained per Reference (t). These records are retained in electronic format (e-MisReps or e-AVIATRS).

(2) Mishap report contents held by Commandant (CG-113) or HSWL SC (se), available in hard copy format only, must be converted and archived in an electronic format before destruction of the hard copies. The entire electronic file must be maintained per Reference (t).

(3) Individual service and health records must be handled per References (b), (s), and (t) as amended by Reference (u).

c. Mishap Analysis Data Disposition.

(1) Upon completion of a unit-level safety analysis, including final electronic mishap reporting system data inputs and message release, commands must properly dispose of all copies of materials gathered or developed during that safety analysis per Reference (t). The electronic mishap reporting system data serves as the formal permanent record of the mishap.

(2) Upon completion and submission of a MAR to Commandant (CG-113), all working papers (e.g., MAR copy, notes, etc.) developed by the MAB must be retained by the MAB president until release of the FSM. Upon FSM release, the MAB President must dispose of all working papers per Reference (t).

(3) Individual service and health records must be handled per References (b), (s), and (t) as amended by Reference (u).

5. Safety Records Access.

a. Unrestricted access to mishap reports, occupational illness and injury logs, mishap, records, and files, and summaries extends to:

(1) Commandant (CG-113) and HSWL SC (se) personnel.

(2) The command or activity that originated the record.

b. Non-privileged and non-Privacy Act electronic mishap data is accessible to Coast Guard personnel with authorized access. Personnel can perform ad-hoc queries available in electronic reporting systems to obtain information relevant to their needs or questions.

6. Annual Reports. Commandant (CG-113) coordinates with HSWL SC (se) to produce and publish annual safety reports. These reports must include summaries and analyses of applicable mishap data.

H. Responsibilities.

1. Department of Homeland Security (DHS). DHS ("the Department") provides overarching Safety and Environmental Health (SEH) policy direction and acts as an intermediary between the Department of Labor (DOL) and Coast Guard on most SEH matters. The Department has delegated mishap response, investigation, analysis, reporting and record-keeping responsibilities for all Coast Guard mishaps to the Commandant of the Coast Guard.

2. Vice Commandant of the Coast Guard (VCG). VCG must:

a. Convene CSBs for on-duty Class A & B mishaps.

b. Serve as a release authority for FSM.

c. Direct corrective actions to resolve mishap safety issues via the FSM.

3. Deputy Commandant for Mission Support (DCMS). DCMS must:

a. Provide executive level oversight in the management and administration of Coast Guard mishap response, analysis and reporting through safety channels.

b. Monitor the MAB report process for Class A and B mishaps.

4. Director, Health, Safety and Work-Life (CG-11). CG-11 must:

a. Serve as the Director, Occupational Safety and Environmental Programs (OSEP) and is the appointing authority for CSBs.

b. Serve as the convening authority for all MABs.

c. Provide oversight and guidance for all MABs.

d. Serve as Executive Secretariat to VCG on all MAB and CSB processes.

e. Serve as a release authority for FSMs.

f. Implement FSM corrective actions directed by VCG

g. Recommend corrective actions to resolve mishap safety issues via the FSM.

h. Serve as the Coast Guard point of contact (POC) for interagency mishaps.

5. Chief, Safety and Environmental Health (CG-113). CG-113 must:

a. Manage, direct, oversee and supervise the Coast Guard post-mishap process to include unit and COMDT level mishap response, evidence preservation, mishap analysis, reporting and record keeping.

b. Serve as the appointing authority for MABs.

c. Recommend prospective CSB members toCG-11 for appointment.

d. Provide administrative support to fulfill CG-11 role as CSB Executive Secretariat.

e. Ensure MARs comply with convening order tasking prior to endorsement phase.

f. Serve as the releasing authority for mishap asset/wreckage when MABs are convened.

g. Determine appropriate MAR endorsement routing.

h. Provide MAR endorsement briefing to mishap chain of command and other endorsing commands.

i. Direct proper MAR document control and final disposition.

j. Make non-privileged information available, upon request, to individuals conducting a concurrent investigation under proper regulatory authority (e.g., FOIA, etc.) or to attorneys representing the interests of the United States in any litigation related to the incident.

k. Serve as Coast Guard coordinator for interagency mishaps.

l. Coordinate with HSWL SC (se) to provide a safety program representative to assist MABs.

m. Ensure MAR, CSB report and FSM records are stored in the appropriate electronic archives and mishap reporting databases.

n. Implement FSM corrective actions and provide adjudication updates to Commandant (CG-11) for continuous tracking and review by Coast Guard members.

o. Track and report the adjudication and implementation status of all FSM corrective actions and unit mishap report recommendations for Coast Guard member review.

p. Coordinate with DHS to comply with OSHA injury and workman's compensation reporting requirements.

6. Chief, Health Services (CG-112). Chief, Health Services (CG-112) must:

a. Assist Commandant (CG-113) as needed with appointing Medical Advisors to MABs and CSBs.

b. Provide Commandant (CG-113) with medical expertise as needed during the mishap reporting and analysis process.

c. Ensure MAB receives MOR as part of the MAB process, when applicable.

d. Serve as a conduit for management and disposition of medical records, autopsy reports and photographs, and toxicology test results and reports.

e. Implement FSM corrective actions and provide adjudication updates to Commandant (CG-11) for continuous tracking and review by Coast Guard members.

7. National Command Center (NCC). The National Command Center (CG-DCO-NCC) notifies Commandant (CG-11) and Commandant (CG-113) following all on- and off-duty military fatalities, on-duty civilian fatalities, and on-duty Class A and Class B mishaps. NCC also makes other SEH-related notifications per instructions in Quick Response Cards (QRCs).

8. Assistant Commandant for Engineering and Logistics (CG-4). Assistant Commandant for Engineering and Logistics (CG-4) must:

a. Appoint technical experts to MABs and CSBs, as needed, in support of Commandant (CG-113).

b. Provide Commandant (CG-113) with engineering and logistics expertise as needed during the mishap analysis process.

c. Provide for salvage of wreckage.

d. Implement FSM corrective actions directed by VCG and provide adjudication updates to Commandant (CG-11) for continuous tracking and review by Coast Guard members.

e. Consider implementation of FSM corrective actions recommended by Commandant (CG-11) and provide adjudication updates to Commandant (CG-11) for continuous tracking and review by Coast Guard members.

f. Disseminate and integrate lessons learned.

9. Assistant Commandant for Capability (CG-7). Assistant Commandant for Capability (CG-7) must:

a. Appoint technical experts to MABs and CSBs, as needed, in support of Commandant (CG-113).

b. Provide Commandant (CG-113) with asset/resource/force capability, competency and capacity expertise, as needed, during the mishap analysis process.

c. Implement FSM corrective actions directed by VCG and provide adjudication updates to Commandant (CG-11) for continuous tracking and review by Coast Guard members.

d. Consider implementation of FSM corrective actions recommended by Commandant (CG-11) and provide adjudication updates to Commandant (CG-11) for continuous tracking and review by Coast Guard members.

e. Disseminate and integrate lessons learned.

10. Assistant Commandant for Response (CG-5R) and Assistant Commandant for Prevention (CG-5P). Assistant Commandant for Response (CG-5R) and Assistant Commandant for Prevention (CG-5P) must:

a. Appoint technical experts to MABs and CSBs, as needed, in support of Commandant (CG-113).

b. Provide Commandant (CG-113) with asset/resource/force capability, competency and capacity expertise, as needed, during the mishap analysis process.

c. Implement FSM corrective actions directed by VCG and provide adjudication updates to Commandant (CG-11) for continuous tracking and review by Coast Guard members.

d. Consider implementation of FSM corrective actions recommended by Commandant (CG-11) and provide adjudication updates to Commandant (CG-11) for continuous tracking and review by Coast Guard members.

e. Disseminate and integrate lessons learned.

11. Assistant Commandant for Acquisition (CG-9). Assistant Commandant for Acquisition (CG-9) must:

a. Appoint technical experts to MABs and CSBs, as needed, in support of Commandant (CG-113).

b. Provide Commandant (CG-113) with asset/resource/force capability, competency and capacity expertise, as needed, during the mishap analysis process.

c. Implement FSM corrective actions directed by VCG and provide adjudication updates to Commandant (CG-11) for continuous tracking and review by Coast Guard members.

d. Consider implementation of FSM corrective actions recommended by Commandant (CG-11) and provide adjudication updates to Commandant (CG-11) for continuous tracking and review by Coast Guard members.

e. Disseminate and integrate lessons learned.

12. Commander, Force Readiness Command (FORCECOM). Commander, Force Readiness Command (FORCECOM) must:

a. Appoint technical experts to MABs and CSBs, as needed, in support of Commandant (CG-113).

b. Audit units using STAN Teams to ensure commands have an up-to-date MRP, and that the plan is drilled at least annually.

c. Implement FSM corrective actions directed by VCG and provide adjudication updates to Commandant (CG-11) for continuous tracking and review by Coast Guard members.

d. Consider implementation of FSM corrective actions recommended by Commandant (CG-11) and provide adjudication updates to Commandant (CG-11) for continuous tracking and review by Coast Guard members.

e. Disseminate and integrate lessons learned.

13. Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC). HSWL SC must:

a. Appoint subject matter experts to MABs and CSBs, as needed, in support of Commandant (CG-113).

b. Review and provide quality control for non-aviation electronic mishap reports. Refers mishap reports requiring Headquarters attention to Commandant (CG-113).

c. Review unit MRPs during SMART Team visits.

d. Track FSM corrective actions and provide adjudication updates to Commandant (CG-11) for continuous tracking and review by Coast Guard members.

e. Update mishap response, analysis and reporting guidance and TTP to facilitate policy compliance and implementation.

f. Provide specific guidance to unit-level PMB and ensure compliance with mishap reporting and analysis requirements outlined in this Chapter.

g. Audit units to ensure commands have an up-to-date MRP and that the plan is drilled at least annually

14. Commanders, Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:

a. Develop and maintain a unit MRP per Section C of this Chapter.

b. Ensure that subordinate units have an MRP.

c. Ensure that all units involved with planning, tasking, execution, monitoring and oversight of an activity that ultimately results in a mishap, activate their MRP to ensure all required notifications, reporting, data collection, and data preservation activities occur.

d. Ensure that tenant/detached units are incorporated into an MRP appropriate for each unit.

e. Establish and maintain a PMB to execute the MRP.

f. Coordinate with MAB President for use of all evidence collected by the PMB.

g. Ensure mishap reporting requirements are met per Section D of this Chapter.

h. Conduct a safety stand down at least annually and after any Class A, B or C mishap. Further information is available by contacting HSWL SC (se).

i. Include Mishap QRC in command center SOP. Further information is available by contacting HSWL SC (se) for an example of a mishap QRC.

j. Ensure all reportable mishaps are analyzed, reported, and updated; and that final submission requirements are met per this Chapter.

k. Provide recommendations, focused on preventing similar mishaps.

l. Conduct and document annual training on the unit's MRP.

m. Provide logistical support for MABs.

15. Supervisors. Supervisors must:

a. Ensure all employees are familiar with the MRP.

b. Ensure all reportable incidents, especially HIPO events, are reported.

c. Minimize risk in workspaces to prevent mishaps from occurring.

16. Employees. Employees must:

a. Ensure all reportable incidents, especially HIPO events, are reported. Employees must report all incidents, especially HIPO events, to the immediate supervisor.

b. Understand roles and responsibilities related to the MRP.

CHAPTER 4 IDENTIFICATION AND CONTROL OF WORKPLACE HAZARDS

References:

(a) 29 C.F.R. § 1960, "Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters"
(b) Risk Management (RM), COMDTINST 3500.3 (series)
(c) Coast Guard Housing Manual, COMDTINST M11101.13 (series)
(d) 29 C.F.R. § 1910, Subpart E, "Exit Routes and Emergency Planning"

A. Discussion. This Chapter covers occupational Safety and Environmental Health (SEH) risk management requirements to ensure identification of hazards to health, mission, and property; evaluation, categorization, and determination of the confidence level relative to the identified risks; and control or abatement of the risks to an acceptable level.

1. Background. Reference (a) requires all employers to provide work environments that are free of recognized hazards that can cause, or are likely to cause, death or serious physical harm. Risk is defined as the possibility of loss or injury due to the exposure to a hazard or danger, and/or a dangerous element or factor. Risk is inherent in all activities regardless of how routine. Risk Management (RM) is a systems-oriented process to identify, assess and control hazards to manage risk associated with any activity Reference (b).

2. Application. While the RM process can be used across the full spectrum of missions, functions, operations, and activities both on and off-duty, the focus of this Chapter is on traditional occupational health and safety requirements to identify, assess, abate, and report workplace hazardous conditions. RM requirements for operational and tactical activities must use Reference (b). This Chapter does not address RM requirements associated with system acquisitions.

B. Program Requirements. The RM process is the cornerstone to a successful safety program. For that reason, every member of the organization has a role and responsibility to contribute to the identification, assessment, and control of hazards.

1. Hazard Identification and Assessment. Reference (b) provides the formal guidance, processes, and procedures to implement RM. Steps 1-2 of the RM process are dedicated to identifying, and assessing hazards. The specific program requirements are:

a. Unit/Workplace Inspections. Under Reference (a), employers must provide a safe and healthy work environment and keep the workplace free of serious recognized hazards. Unit/Workplace safety and health inspections are just one of the tools to assure compliance with this federal law. There are two types of inspections:

(1) Routine and/or Informal Inspections. The objective of these inspections is to identify physical hazards and unsafe behaviors, such as missing guards, blocked exits, damaged electrical cords, etc. and take corrective action.

Supervisors must conduct these inspections as frequently as necessary to maintain awareness of hazards in the workplace. Units can conduct routine inspections in conjunction with material inspections or other normal workplace inspections.

(2) Formal Inspections. Formal occupational safety and environmental health inspections are comprehensive, detailed inspections of occupational safety and health risk assessment processes as well as workplaces, work practices, and equipment. The formal inspection is conducted at least annually for all workspaces or more frequently at the discretion of the Commanding Officer (CO) or Officer-in-Charge (OIC) per Reference (a). More frequent inspections are conducted in workplaces where high hazard operations and equipment could cause an increase of mishap, injury, or occupational illness due to the nature of the work performed.

(a) The CO or OIC must use accident/injury statistics, occupational hazards and/or employee complaints to determine if more frequent inspections are warranted.

(b) Inspections must include all spaces assigned and all activities performed by unit personnel. These include, office spaces, shops, Coast Guard owned housing as defined in Reference (c), vessels, aircraft, grounds, remote detachments, as well as, procedures, and unit programs.

(c) Personnel conducting the inspections must invite an employee representative or labor union member to observe the assessment. However, assessors are permitted to deny the right of accompaniment to any person whose participation interferes with a fair and orderly inspection, who lacks required training to enter a high risk or specific hazard area, or who lacks the required security clearance.

(d) Units must retain the results of all inspections. Follow-up inspections must be conducted after abatement efforts are completed to verify that hazard condition(s) have been corrected.

(e) Discrepancies discovered during inspections must be documented in the Unit Safety Assessment Tool (USAT).

(3) Qualifications for Personnel Conducting Inspections. A successful inspection program requires trained, qualified and competent inspectors. Qualifications are based upon the degree of hazard exposure and complexity of the areas or operations to be inspected.

(a) Routine/Informal Inspections. The minimum qualifications include:

[1] Proficiency with the equipment and safe work practices to identify “hidden” or subtle safety hazards that can go unnoticed.

[2] Training and qualification to identify, assess, and abate hazards.

[3] Knowledge of OSHA, Coast Guard and program specific (e.g., afloat, aviation, industrial, etc.) policies and procedures, standards and historical Occupational Safety and Health (OSH) problems associated with the areas being inspected.

(b) Formal Inspections. The minimum qualifications include:

[1] Inspectors must have experience with identifying, assessing, and abating workplace hazards, and must attend formal training in occupational safety and health hazard recognition and evaluation. The training requirements can be fulfilled by attending Coast Guard safety (e.g., Assistant Safety Manager) or OSHA courses.

[2] Units who experience hazard exposures beyond the ability of their trained personnel to evaluate shall contact HSWL SC (se) for assistance.

[3] Safety climate assessments should be conducted annually. Safety climates represent the perception members' have regarding the command stance on safety, or issues facing the unit. Capturing these perceptions can reveal attitudes, values, approaches to problem solving, and norms that are not consistent with good RM practices, and that might expose the unit to mishaps. Units shall use safety climate surveys to identify safety climate deficits that can be leading indicators for mishap exposure. Units can contact HSWL SC (se) for support on developing safety climate assessments.

b. Compliance Assessments. HSWL SC (se) conducts unit-level inspections and evaluations to determine compliance with OSHA standards and Coast Guard SEH program requirements, assist units in meeting the annual unit-level evaluation requirement, and provide SEH expertise with hazard assessment and abatement plans.

(1) For cutters 210' in length and greater – those requiring Tailored Ship's Training Availability (TSTA)/Command Assessment of Readiness for Training (CART), conduct SMART/CART visits according to CART schedule.

(2) For cutters less than 210' in length and shore units - Conduct SMART visits based on metrics that reveal heightened hazard exposure and potential for mishap. These metrics include: unit hazard exposure profiles (e.g., facilities, operations, hazardous material use, etc.); number and type of mishaps, illnesses, occupational injuries, and close calls/near misses; employee complaints; and anonymous reports. Units who are exposed to one or more of the above conditions will receive more frequent inspections to resolve safety deficits.

(3) SMART visits may be conducted at any time based on safety risk exposure, request from the unit command, or employee complaints/anonymous reports, or in support of safety research and analysis activities.

(4) Evaluation findings and recommendations are provided to the unit Command and to the next level in the unit's chain-of-command and any command that must control or eliminate identified hazards.

(5) Personnel conducting the inspections must invite an employee representative or labor union member to observe the assessment. However, assessors are permitted to deny the right of accompaniment to any person whose participation interferes with a fair and orderly assessment, who lacks required training to enter a high risk or specific hazard area, or who lacks the required security clearance.

c. Assurance Assessments. Commandant (CG-113) conducts assurance assessments to maintain oversight of the SEH support program, and to gain insight into program areas that need assistance. Oversight functions must address the adequacy of safety and health programs, as well as, provide quality assurance activities to ensure compliance with OSHA standards and Coast Guard requirements. The assessments provide an objective appraisal of loss prevention efforts, as determined by analysis of accident or injury and illness data, records, and workplace evaluations. The assessments must include:

(1) An overall evaluation of the activities in the SEH support program;

(2) SEH support program deficiencies observed; and

(3) Recommended corrective actions.

(4) The reports are retained on file until the deficiencies have been corrected and for at least five years following the end of the calendar year to which they relate.

d. Anonymous Reporting. All commands must implement a process to anonymously report hazards. Command personnel must be able to make a submission without fear of retribution. If used, anonymous boxes must be placed in a location where members can make a submission without being observed. Do not include a requirement for the name of the person making the submission on the form. Commands should set up a feedback mechanism to address issues raised by the program. The Coast Guard Employee Hazard Report Form, CG-4903 and instructions are located at http://www.dcms.uscg.mil/Our-Organization/Assistant-Commandant-for-C4IT-CG-6/The-Office-of-Information-Management-CG-61/Forms-Management/CG-Forms/smdpage4081/7/smdsort4081/organization/.

2. Hazard Abatement. Abatement is defined as "action taken to comply with a cited standard or regulation or to eliminate a hazard identified during an inspection." When a hazardous condition is identified, prompt action must be initiated to abate the condition, process, or procedure through creation of an abatement plan.

a. Abatement Plans. Abatement plans are written plans of action, in USAT or HCMS, required to correct a hazardous condition, process or procedure.

(1) Hazardous workplace conditions that are beyond the unit's ability to correct, or require longer than 30 days to correct, require the preparation of an abatement plan.

(2) The plan is prepared by the Command and updated as changes occur until the hazard is abated.

(3) Area and District Safety and Risk Management (SARM) Councils, HSWL SC (se) should be contacted to assist with the abatement plan.

(4) After the abatement plan is completed, a reassessment must be conducted by qualified safety personnel to verify the abatement was successful.

b. Hazard Controls. Units must consider all potential hazard control options and select the option(s) that will produce the best mitigation strategy. Hazards in the workplace take many forms. Likewise, options for abatement vary depending on the hazard condition. Traditionally, a hierarchy of controls has been used to establish the effectiveness and feasibility of controls. In order of effectiveness, this hazard control hierarchy is: elimination, substitution, engineering controls, administrative controls, and personal protective equipment. Following the hierarchy normally leads to the implementation of inherently safer systems, where the risk of illness or injury has been substantially reduced.

(1) Elimination and Substitution. While most effective at reducing hazards, elimination and substitution also tend to be the most difficult to implement in an existing process. If the process is still at the design or development stage, elimination and substitution of hazards may be inexpensive and simple to implement. In addition, substituting an existing chemical substance for a less hazardous alternative may be more easily accomplished. For an existing process, major changes in equipment and procedures may be required to eliminate or substitute for a hazard.

(2) Engineering Controls. Engineering controls are used to control or reduce a hazard by placing a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and typically require little worker interaction to provide a high level of protection. However, it should be noted that some engineering controls require worker training to be effective (e.g. positioning a welding snorkel) and all of them require preventive maintenance, configuration control, and life-cycle management to ensure proper performance. The initial cost of engineering controls can be higher than the cost of administrative controls or personal protective equipment, but over the longer-term, operating costs are frequently lower. Some examples of engineering controls include:

(a) Ergonomically designed tools, equipment and workstations.

(b) Isolation or enclosure of hazardous processes or noisy equipment.

(c) Mechanical exhaust systems/booths for controlling toxic materials, paint spray, and welding fumes.

(3) Administrative Controls. While safe work practices can be considered forms of administrative controls, OSHA uses the term administrative controls to mean other measures aimed at reducing employee exposure to hazards. These measures include additional relief (shift) workers, exercise breaks, and worker rotation. Administrative controls, however, require ongoing and consistent training and enforcement to be effective. Controls may also be costly and increase supervisor workload. Because of these limitations, always use administrative controls in conjunction with other controls and replace these controls with more effective methods, if and when feasible.

(4) Personal Protective Equipment (PPE). When exposure to hazards cannot be engineered completely out of normal operations or maintenance work, and when safe work practices and other forms of administrative controls cannot provide sufficient additional protection, a supplementary method of control is the use of protective clothing or equipment. PPE includes safety glasses and goggles, face shields, aprons, hard hats, hearing protectors, chemical protective clothing and gloves, steel toed shoes, respirators, etc.

(5) Other Control Methods. Additional control methods might include hazard tracking, emergency planning, preventive maintenance, operations management, interim control measure(s), and medical programs.

c. Safe Work Practices (SWP). Units shall develop and incorporate SWPs in concert with HSWL SC (se) for all hazardous processes. SWPs are prescriptive procedures designed to minimize risks during specific operations, tasks and circumstances. They are developed by first performing a Job Hazard Analysis (JHA) to identify hazards associated with the task or operation. SWPs typically incorporate several different types of controls including engineering controls, administrative controls, and PPE to reduce risks. SWP can be standalone procedures for a particular task or can be incorporated as steps in Maintenance Procedure Cards (MPC). For example, SWP developed for cleaning operations near lead-containing paint must provide step-by-step procedures for personnel and typically include: use of High Efficiency Particulate Air-filtered (HEPA) vacuum cleaners (engineering control); training for personnel on lead dust hazards, decontamination procedures to prevent cross-contamination, proper use/maintenance of the vacuum, and prohibition of dry-type (i.e. broom sweeping) cleaning methods (administrative controls); and require personnel to wear appropriate PPE including respirators, protective clothing, boot covers, and gloves. The blended approach provided by SWP is often the most cost effective and least burdensome on units.

d. Facility Emergency Action Plan (FEAP). Despite the best efforts to abate all hazards and lessen risk, emergencies can and will happen. Because emergencies are often caused by unplanned or unforeseen events, they can result in confusion and chaos unless formal plans are in place to respond to these events. An organized and orderly

response to emergency events is paramount to ensure the safety of personnel and protect assets. A FEAP will provide the guidance and procedures to respond to emergency situations. Per Reference (d), FEAP requirements and recommendations include a fire action plan, emergency evacuation plan, shelter-in-place plan and emergency plans for other events that could reasonably be expected to occur in the workplace and are relevant to the unit's geographic location (e.g., tornado/high winds, flooding, wildfire, earthquake, tsunami, active shooter, and bomb threat).

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must:

   a. Oversee the RM program's policy, guidance, development, administration, and evaluation.

   b. Conduct evaluations to maintain oversight of the Coast Guard SEH program and gain insight into program areas that need assistance.

   c. Explore new and innovative technologies, tools, and training modes to ensure the most effective and state-of-the-art program(s) to address the dynamic RM challenges of the Coast Guard.

   d. Identify RM program performance issues, and request and fund Front End Analyses (FEA) to identify RM/assessor training deficits.

   e. When appropriate, incorporate RM lessons learned into regular safety messages promulgated to the field.

   f. Coordinate safety and environmental health compliance activities and tracking with other Headquarters and field activities to support unity of effort, reduce redundancy and enhance transparency of activities focused on elimination of workplace hazards.

2. Commanding Officer, Health, Safety, and Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC) must:

   a. Conduct unit-level compliance assessments to determine compliance with OSHA and Coast Guard SEH standards.

   b. Provide RM expertise to assist units with hazard assessment and abatement efforts.

   c. Assist units in developing SWP using a JHA.

   d. Review unit hazard assessment reports and abatement plans.

   e. Develop TTPs to support RM program assessment, abatement, and reporting requirements.

   f. Assist units with the integration of RM concepts into the unit SEH program.

g. Provide training on RM processes and techniques during safety visits to promote awareness and ensure assessors meet minimum qualifications.

3. Area and District Commanders. Area and District Commanders must:

a. Maintain and support SARM Council.

b. Support units with assessments, abatement plans and FEAPs.

c. Incorporate RM into unit readiness evaluations, e.g., Ready for Operations (RFO).

d. Require all units to develop FEAPs.

e. Ensure that local personnel are familiar with the FEAP.

4. Sector Commanders. Sector Commanders must:

a. Create a safety culture where every member is trained and motivated to manage risk by identifying and controlling hazards in everything they do.

b. Designate and support the Sector Safety Manager.

c. Support units with RM assessment, abatement plans and FEAPs.

d. Incorporate RM into unit readiness evaluations, e.g., RFO.

e. Ensure all units develop FEAPs and that personnel are familiar with the FEAP.

5. Commanding Officers and Officers-in-Charge (COs and OICs). COs and OICs must:

a. Ensure that RM is integrated into the annual unit-level SEH inspections.

b. Develop, review, and update hazard abatement plans.

c. Inform the chain of command of hazards identified by the RM process that cannot be controlled or mitigated at the unit.

d. Create a safety culture where every member is trained and motivated to manage risk by identifying and controlling hazards in everything they do.

e. Support unit safety committee activities.

f. Implement an anonymous hazard reporting system.

g. Conduct at least annually, inspections of all workplaces and report results of inspections/abatement plans electronically.

h. Develop and implement a FEAP and ensure personnel are familiar with the FEAP.

CHAPTER 5 COUNCILS AND COMMITTEES

Reference:

(a) 29 C.F.R. § 1960, "Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters"

A. Discussion. This Chapter establishes overall policy for Safety and Environmental Health (SEH) Councils and Committees.

1. Background. The councils and committees referred to in this Chapter were developed to enhance the programs they serve by identifying, defining, and assessing problem areas, and recommending corrective actions. From these recommendations, new or revised policies and procedures can be developed to better serve individual, group, and organizational needs. SEH councils and committees have three basic functions:

   a. Creating and maintaining an active interest in safety and health.

   b. Serving as a means of communication and awareness regarding safety and health.

   c. Providing program management assistance through proposed policy and program enhancements.

2. Application. The intent of Reference (a) is to establish SEH councils and committees as sounding boards for viewpoints and interests of stakeholders throughout the Coast Guard and beyond that might include individuals and groups representing various public, private or commercial interests relating to the Coast Guard's SEH program.

B. Program Requirements.

1. Coast Guard Safety and Occupational Health Council (CG-SOHC). The CG-SOHC is chaired by the Assistant Commandant of Human Resources (CG-1). The purpose of the CG-SOHC is to establish a culture within the Coast Guard that facilitates an effective SEH Program, improves communication across Directorates, promotes a comprehensive SEH program, which can be implemented at all operational levels to ensure uniformity, monitors SEH program effectiveness, and eliminates duplication of effort.

   a. The CG-SOHC must meet biannually or more often as necessary and must periodically report the status of SEH programs to the Deputy Commandant for Mission Support (DCMS) and the Deputy Commandant for Operations (DCO).

   b. The CG-SOHC must be comprised of the following members:

      (1) Assistant Commandant for Human Resources (CG-1) – Chair

      (2) Assistant Commandant for Engineering and Logistics (CG-4)

(3) Assistant Commandant for Response Policy (CG-5R)

(4) Assistant Commandant for Prevention Policy (CG-5P)

(5) Assistant Commandant for Command, Control, Communications, Computers and IT (CG-6)

(6) Assistant Commandant for Capabilities (CG-7)

(7) Assistant Commandant for Acquisition & Chief Acquisition Officer (CG-9)

(8) Director, Health, Safety and Work-Life (CG-11) – Executive Secretariat

(9) PACAREA Deputy Commander (PAC-09) – Contributing Member

(10) LANTAREA Deputy Commander (LANT-09) – Contributing Member

(11) Force Readiness Command (FORCECOM) Commander – Contributing Member

(12) Director of Operational Logistics (DOL) – Contributing Member

2. Laser Safety Review Board (LSRB). The LSRB formerly known as the Laser Hazard Control Standing Committee (LHCSC) is a sub-committee of the Coast Guard Safety & Occupational Health Council (SOHC) The LSRB is chaired by Chief, Safety and Environmental Health (CG-113) and serves as the CG-SOHC reviewing authority for all laser systems capable of injuries or as otherwise needed, based on the hazard potential to CG personnel or the public.

a. The LSRB must perform the following functions or as determined by the CG-SOHC:

(1) Review the acquisition or use of new Class 3B and Class 4 Laser, or any laser requiring exemption from federal regulations.

(2) Publish submission guidance for laser systems requiring committee review.

(3) Review the hazardous aspects of each laser system to ensure all safety requirements including design features, procedures, precautions, and training are included in the laser installation and documentation.

(4) Submit to the CG-SOHC, a formal report on each laser system reviewed addressing the overall safety of the system. Each report shall include a clear regarding proposed use with detailed corrective actions required if a system is determined to lack sufficient control measures.

(5) Obtain the services of technical experts in the field of lasers from DoD and industry as needed on a temporary basis to carry out the responsibilities of the committee.

b. The LSRB meets on as needed basis, or on the call of the chair, as new systems are proposed.

c. LSRB committee members shall be determined and assigned by CG-SOHC as outlined in the charter. At a minimum, the LSRB shall be comprised of the following members:

(1) Chief, Office of Safety and Environmental Health (CG-113), Chair

(2) Chief, Operational Medicine Division, Office of Health Services (CG-1121)

(3) Chief, Human Systems Integration (CG-1B3)

(4) Assistant Commandant for Capability (CG-7) Representative

(5) Assistant Commandant for Engineering and Logistics (CG-4) Representative

(6) Assistant Commandant for Marine Safety, Security & Stewardship (CG-5) Representative.

(7) Judge Advocate General (JAG) and Chief Counsel (CG-094) Representative

(8) Assistant Commandant for Acquisitions (CG-9) Representative

3. Risk Management Steering Committee (RMSC). The RMSC is chaired by Chief, Safety and Environmental Health (CG-113) and serves as the CG-SOHC clearinghouse for SEH Issues. With CG-SOHC direction, the RMSC establishes and oversees subcommittees that address emerging, cross-directorate SEH issues. Additionally, the RMSC must coordinate collection of enterprise wide occupational safety and health concerns identified at the Area, District and field unit levels to foster information sharing and provide visibility when necessary to the CG-SOHC. The RMSC meets biannually or more often as necessary.

4. Tripartite (Tri-P). The Tri-P represent the heads of all Coast Guard capability components (aviation, boat, and cutter) – operations, engineering, and safety. The Tri-Ps work together and equally at all levels. Platform mangers of specific asset types concurrently work closely with system managers and safety program managers to ensure operational effectiveness, maintenance availability, and safety oversight. In addition to the main components from operations, engineering, and safety, other important components provide input into Tri-P and include representation from acquisitions, training, and other capability program managers.

5. Safety Review Board (SRB). The purpose of the SRB is to ensure a deliberate assessment of safety and health implications associated with system or subsystem changes that involve equipment, operating limits, procedures, or training requirements. If Test and Evaluation (T&E) activities are required to evaluate the impacts of the proposed changes, the SRB must support the Commandant (CG-11) Institutional Review Board (IRB) by conducting the safety review of the T&E plan and providing recommendations

to the IRB chair. The SRB membership must consist of safety experts representing all Coast Guard operational communities. The focus of the SRB is to:

a. Identify all risks to personnel associated with the proposed change, and

b. Define hazard control strategies to reduce risk to acceptable levels.

6. Safety and Risk Management Council (SARM). All Area and District commands must implement a SARM. The SARM is chaired on a rotating basis among various senior District and Area staff members. The council must meet at the call of the Chairman, but no less than quarterly. The purpose of the council is to address the numerous facets associated with an effective safety and RM program. The outcome of this council includes evaluation of the current state of workplace safety in the Area or District, development of process improvement measures, and recommendations for action within major commands. SARM functions include the following:

   a. Provide resources, capability and advocacy to resolve safety discrepancies beyond the organic capability of subordinate units.

   b. Ensure standardization of safety programs across Area or District units.

   c. Ensure the effective implementation of safety programs and processes.

   d. Ensure safe work place behaviors and conditions are employed.

   e. Identify and correct hazardous conditions.

   f. Report and evaluate home and workplace injuries and deaths, equipment failures, and actual or near miss mishaps.

7. Safety and Environmental Health Committees. All units must establish SEH committees. Detached units or components receive safety program guidance from their parent command, but must participate as a member of their host command's safety committee and be included in the administrative safety program guidance of the host command. SEH committee functions include the following:

   a. Chaired by the Deputy Commander, XO/XPO and be comprised of the Assistant Safety Officer (ASO) and employee representatives such as enlisted personnel, civilian workers and/or union representatives, and management representation from appropriate divisions.

   b. Meet at the call of the Chairman, but no less than quarterly.

   c. Keep minutes of all activities and accomplishments.

   d. Track and be informed of any identified hazardous conditions that present high risk of imminent danger, including abatement and control actions.

e. Keep the next higher level of command appraised of significant problems or achievements associated with committee activities.

f. Extract and review safety data and information from subordinate units; ensure visibility of high profile safety concerns, especially those requiring resources or capabilities beyond what is organically available.

g. Conduct workplace SEH inspections as directed by Reference (a) and Chapter 4 of this Manual.

h. Review past unit mishap reports as well as any other appropriate Mishap Analysis Reports (MARs) for lessons learned.

8. Human Factors Councils (HFCs) and Human Factors Boards (HFBs). Human actions or inactions contribute to most mishaps. Often, these behaviors or tendencies were recognized by supervisors and peers but as isolated pieces of the whole picture. The HFC is a mechanism for the command to regularly discuss impacts of personnel issues on mission execution and the unit's safety system. The goal of the HFC is to proactively identify and mitigate human factors deficiencies before they manifest into a mishap. If deliberate analysis is necessary, the HFC can convene a HFB to conduct detailed discussions and analysis of personal and sensitive individual situations with a goal of identifying, assessing, and mitigating hazards to maintain operational readiness. A HFB normally contains some members from the HFC. HFC and HFB functions and activities are solely for safety management and mishap prevention purposes, and must not be used in any legal or administrative proceedings. Due to the potentially personal and sensitive nature of the issues being considered by the HFC and HFB, these functions and activities should not be integrated into unit safety and environmental health committees, and records from the analysis and deliberations must be safeguarded. Contact HSWL SC (se) for guiding principles on establishing and sustaining a HFC and conducting a HFB.

9. Joint Service Safety Council (JSSC). The JSSC is council of flag-level leaders representing DoD and DHS safety organizations that collaborate as needed to address common service safety goals and objectives. Council members include flag-level leadership from the Army Combat Readiness Center, Naval Safety Center, Air Force Safety Center, Commandant of the Marine Corps (Safety Division), and the Coast Guard Health, Safety and Work-Life Directorate (CG-11).

10. Federal Advisory Council on Occupational Safety and Health (FACOSH). FACOSH acts in an advisory capacity to assist the Secretary of Labor in carrying out program responsibilities. The council consists of sixteen members appointed by the Secretary of Labor and includes representatives from Federal agencies and labor organizations representing Federal employees. The Coast Guard supports FACOSH either directly, through membership on the council, or indirectly, through participation at council meetings.

11. Field Federal Safety and Health Councils (FFSHCs). Sponsored by the Occupational Safety and Health Administration (OSHA), FFSHCs have been established in many

major metropolitan areas. The councils are established to facilitate the exchange of ideas and information about Occupational Safety and Health (OSH) throughout the Federal Government. While FACOSH originally operated at the headquarters level, field councils now function at the local level. These councils consist of representatives from local federal agencies and labor organizations representing federal employees. The Coast Guard supports these councils, and Coast Guard employees are encouraged to participate in existing FFSHC activities. Attendance and participation by Coast Guard safety and health personnel in regional and national safety and health conferences is encouraged. Where Federal Safety and Health Councils sponsor regular safety and health seminars, workshops, and safety training, managers should understand the benefits derived by attendance at these events, and encourage the attendance of their Collateral Duty Safety Officers (CDSOs).

12. Labor Agreements. Where labor agreements require the formation of a safety and health committee, the formation and membership of that committee is per the specific labor agreement. At commands that have an exclusive representative, but the labor agreement does not address health and safety issues, the components should determine if establishing a safety and health council/committee is necessary or desirable and then appropriately engage in negotiations. In commands where there is no bargaining unit, each unit commander is authorized to establish safety and health councils/committees if considered necessary or desirable. The decision to establish an SEH council or committee is based upon the size, organization and need of such an activity. When a council/committee is formed:

    a. Committee members representing management are appointed by management. Committee members representing employees should be selected by employees. All committee members have equal voting representation of supervisory and non-supervisory employees.

    b. Meetings should be held quarterly, at a minimum, and minutes of the meetings maintained by the Command Safety and Health Office as applicable.

    c. Each council should develop its own rules of operation, agenda, and action items.

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must interpret statutory requirements and develop and publish policy to establish effective SEH committees and councils.

2. Commanding Officer, Health, Safety, Work-Life Service Center. Commanding Officer, Health, Safety, Work-Life Service Center must provide support to assist Areas, Districts, and units in establishing effective SARMs and SEH committees and councils, and evaluate the effectiveness of unit safety committees and councils.

3. Area and District Commanders. Area and District commanders must:

    a. Establish an effective SARM at the Area/District level.

b. Ensure that subordinate unit safety committee meets reporting requirements per Chapter 4 and the requirements of this Chapter.

c. Ensure that the appropriate resources and/or capabilities are employed to resolve safety discrepancies brought forward by subordinate unit safety committees.

d. Advocate for support functions to assist subordinate units to resolve hazardous conditions requiring intermediate level intervention.

4. Sector Commanders. Sector Commanders must:

a. Establish an effective sector safety committee, including safety representatives from all subordinate units. Consult the HSWL SC (se) SEH detachment for assistance.

b. Ensure the sector safety committee membership is comprised of employee representatives such as enlisted personnel, officers, civilian workers and/or union representatives, and management representation from appropriate divisions.

c. Ensure the sector safety committee meets reporting requirements per Chapter 4 and the requirements of this Chapter, keeping the chain of command appraised of significant problems or achievements associated with committee activities.

d. Ensure that the appropriate resources and/or capabilities are employed to resolve safety discrepancies brought forward by subordinate units.

e. Assist subordinate units to establish effective safety committees.

5. Commanding Officers/Officers-in-Charge. COs/OICs must:

a. Establish an effective unit safety committee. Sector units must participate as a member of the sector safety committee in addition to unit SEH duties. Consult with the HSWL SC (se) Regional SEHO for assistance.

b. Ensure unit safety committee membership is comprised of employee representatives such as enlisted personnel, officers, civilian workers and/or union representatives, and management representation from appropriate divisions.

c. Ensure the unit safety committee meets reporting requirements per Chapter 4 and the requirements of this Chapter, keeping the chain of command appraised of significant problems or achievements associated with committee activities.

6. Staff elements, Department Heads, Division Officers, and Supervisors. Supervisors must:

a. Ensure representation on the unit safety committee.

b. Report department/division safety questions/issues, or hazardous conditions to the unit safety committee.

7. Employees. Employees must report safety questions/issues, or hazardous conditions to the unit safety committee.

CHAPTER 6 SAFETY & ENVIRONMENTAL HEALTH TRAINING PROGRAM

References:

(a) Executive Order 12196, as amended, "Occupational Safety and Health (OSH) Programs for Federal Employees"
(b) 29 C.F.R. § 1960, "Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters"
(c) 29 C.F.R. § 1910, "Occupational Safety and Health Standards"
(d) Mandatory Use Of The Training Management Tool, COMDTINST 5270.2
(e) 29 C.F.R. § 1910.120(q), "Emergency response to hazardous substance releases"

A. Discussion. A well-trained workforce is essential to ensure compliance with all Safety and Environmental Health (SEH) regulations.

1. Background. SEH training is required at all levels of the organization. Training methods vary from on-the-job training by supervisors or more experienced co-workers to lengthy formal training schools. Training programs are designed to instruct individual employees in how to perform their work in a safe manner.

2. Application. Supervisors must ensure that personnel receive proper SEH training as new regulations, processes or chemicals are introduced into the workplace. Training should be appropriate to the responsibility level of the individual, but provide, at a minimum, sufficient information for effective participation in Coast Guard missions and ensure compliance with all SEH programs.

B. Program Requirements.

1. Training Plan. Each unit must develop a SEH training plan by identifying tasks that require specialized training in order to perform the job safely and without injury. A Job Hazard Analysis (JHA) is a helpful tool for supervisors and safety officers in identifying those tasks that require safety training. Units should also regularly review Mishap Reports as well as the Vice Commandant's (VCG)'s Final Decision Safety Messages as another source of information that might identify training gaps. The training plan should also include SEH indoctrination for new employees. Units can use the "Unit Self-Assessment Tool" (USAT) program to identify required training for employees.

2. Training Plan Review. The unit safety committee must review the training plan annually.

3. Training Requirements:

a. Safety Officer/Sector Safety Manager. Training for Safety Officers/Sector Safety Managers must, at a minimum, include an overview of the Coast Guard SEH program, in line with References (a) through (d). Training should also include procedures for the reporting, evaluation and abatement of hazards; the recognition of hazardous conditions; identification and use of SEH standards; and other appropriate rules and regulations.

b. Assistant Safety Officer (ASO) and Ground Safety Officer (GSO). Training for ASOs and Air Station GSOs must, at a minimum, include completion of the ASO/Manager Course or equivalent training to recognize unsafe and unhealthy working conditions and practices in the workplace. Training must also include the development of skills necessary to effectively manage employee activities to achieve SEH program objectives at the unit level. These skills require the eventual training and motivation of unit personnel in the development of safe and healthful work practices and involve the integration of occupational safety with job training.

c. Safety Specialist. Training for safety specialists, including Safety and Environmental Health Officers (SEHO) must, at a minimum, include courses and other formal educational experiences to prepare them to perform the necessary technical monitoring, consulting, testing, inspecting, and other tasks that are required of SEH professionals. Training and education is provided per professional development plans and specific Coast Guard mission needs to support an effective SEH program.

d. Incident Command System (ICS) Safety Officer (SOFR). Assistant Safety Officers and Safety Specialists should work towards acquiring the SOFR competency, preferably within the first year of reporting. While incident response experience is required to obtain this competency, many PQS requirements can be satisfied by completing the ICS-404 SOFR Course (501284). In addition, participation in contingency exercises and drills are recommended.

4. Training Completion. Required training must be recorded as per Reference (d).

C. Responsibilities.

1. Force Readiness Command Training Division (FC-T). Force Readiness Command Training Division (FC-T) assists Program and Course Managers with their responsibilities for managing quotas, establishing curriculum outlines, coordinating implementation and evaluation of new and existing training solutions, and coordinating performance and training analysis. FC-T Training Managers (TMs) are skilled in human performance technology and provide support for establishing systematic and systemic performance support systems for PMs and Rating Force Managers.

2. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) is designated as the SEH PM. The SEH PM has oversight responsibilities for an effective SEH training program. Responsibilities include:

a. Establish program policy and identify requirements.

b. Identify SEH program performance issues, request and fund Front End Analyses (FEA) to determine if training gaps exist, review course curricula every three years, and review program training needs annually. Provide resources for all performance support and training interventions.

c. Review annual HSWL SC (se) ‘C’ School training spend plan.

d. Participate in FC-T annual AFC-56 out-year budget build to secure quota and funding needs for SEH courses.

e. Review all change requests from the CM that have potential funding/resource implications before forwarding to FC-T.

3. Commanding Officer, Health, Safety, and Work-Life Service Center (HSWL SC). Commanding Officer, HSWL SC is designated as the SEH Course Manager (CM). The SEH CM has overall responsibility for the execution of all Class 'C' training courses of instruction for the SEH program per Program/Course Manager Guide to Class 'C' Training, TQCINST M1500.1 (series). Responsibilities include:

   a. Provide training for Sector Safety Managers (SSMs), Safety Officers, Collateral Duty Safety Officers (CDSOs), and Safety Supervisors.

   b. Provide SEH training support to field units. The CM, in coordination with the PM, works with FC-T to update, revise, and validate existing or planned curricula. In addition, the CM makes recommendations to the PM for annual quota requirements.

   c. Submit to FC-T via the PM the annual SEH Program 'C' school training spend plan. FC-T typically solicits program training plans early during the 2nd quarter (January).

   d. Submit requests to add, delete, or change class dates, rosters or other information to FORCECOM. Ensure all change requests with potential funding/resource implications are routed to FC-T via the PM for review and approval.

4. Sector Commanders. Sector Commanders must:

   a. Ensure staff, safety committee personnel and all subordinate Assistant ASOs receive required SEH training.

   b. Ensure a training plan is developed outlining SEH training requirements for all Sector personnel, to include all Sector subordinate units. Ensure that all newly appointed Safety Officers (SOs) receive proper training per this program.

   c. Request training support from the HSWL SC (se) as needed. (See Training Quota Management Center (TQC) website for all 'C' School Health and Safety Courses and convening dates).

5. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:

   a. Provide required SEH training as an integral part of the command SEH program. Sector units must consult with their SSM to determine SEH training requirements.

   b. Ensure newly appointed SOs, ASOs, and safety supervisors receive job specific SEH related training prior to assuming increased responsibilities.

c. Request training support from HSWL SC (se) as needed. (See TQC website for all 'C' School Health and Safety Courses and convening dates).

6. Assistant Safety Officer. Assistant Safety Officer/Manager must:

a. Provide reports on the status of unit programs to the SO.

b. Develop and implement a training plan outlining SEH training requirements for all personnel.

c. Conduct JHA to catalog workplace hazards and determine training requirements.

d. Provide and/or coordinate required SEH training.

e. Document and track attendance for required training courses using the Training Management Tool (TMT).

f. Ensure SEH indoctrination training is provided to all new personnel immediately as they report onboard. Indoctrination training must include, at a minimum:

(1) Individual responsibility for safety and health;

(2) Coast Guard SEH policy and guiding principles;

(3) Awareness of hazards common to the individual's work site, trade, occupation or tasks; and

(4) Employee reporting procedures for hazardous operations/conditions.

7. Supervisors. Supervisors must

a. Identify and communicate training needs to the ASO for inclusion into Safety and Health training program.

b. Ensure all members requiring training attend scheduled events.

c. Annually review workplace hazards list to ensure list covers all current workplace hazards including work processes and equipment.

8. Employees. Employees must receive training specific to the potential hazards to be encountered before operating in hazardous environments or otherwise risking exposure to chemical, physical or biological hazards known to potentially cause injury or illness and the methods of reducing or minimizing the risk of exposure.

CHAPTER 7 PERSONAL PROTECTIVE EQUIPMENT PROGRAM

References:

(a) 29 C.F.R. § 1910, Subpart I, "Personal Protective Equipment"
(b) USCG Countering WMD Capabilities Manual (CWMD Manual), COMDTINST M3400.51(series) (FOUO)
(c) Deployable Specialized Forces Tactical Operations Manual, COMDTINST M16600.7 (series) (FOUO)
(d) Rescue and Survival Systems Manual, COMDTINST M10470.10 (series)
(e) Mandatory Use Of The Training Management Tool, COMDTINST 5270.2

A. Discussion. Protective clothing or equipment is the final exposure control method when exposure to hazards cannot be engineered completely out of normal operations or maintenance work, and when safe work practices and other forms of administrative controls cannot provide sufficient additional protection.

1. Background. Personal protective devices do nothing to reduce or eliminate the hazard itself, but merely establish a "last line of defense"; any equipment failure or misuse immediately exposes the employee to the hazard. Many protective devices, through misapplication or improper maintenance, can become ineffective without the knowledge of the wearer and can have potentially serious consequences. For this reason, proper equipment selection, maintenance, employee training (including knowledge of equipment limitations), and enforcement of equipment use are key elements in an effective Personal Protective Equipment (PPE) program.

2. Application.

a. This Chapter applies to all Coast Guard units and must be used for PPE supporting standard Coast Guard mission activities (excluding CBRN and Deployable Specialized Forces (DSF) operations). Reference (a) provides the overarching PPE regulation. Where there is specific OSHA standard for PPE requirements such as respiratory protection; eye and face protection, etc., those standards must be adhered to.

b. PPE policies for Chemical, Biological, Radiological and Nuclear (CBRN) operations and DSF are contained in References (b) and (c). Guidance for rescue and survival system PPE is found in Reference (d). Documentation of training is provided in Reference (e).

c. All PPE requirements for firefighting and emergency services are addressed in Chapter 18 of this manual.

B. Program Requirements.

1. Hazard Assessments. Hazard assessments must be conducted to determine if hazards are present, or are likely to be present in the workplace per Chapter 4 of this Manual. Documentation must include mitigation strategies to lower risk including appropriate PPE recommendations based on the hazards identified.

2. Mandatory Use of PPE.

   a. Once it has been determined that PPE is required on the job to control the hazard, its use is mandatory.

   b. Coast Guard personnel shall use high-visibility safety apparel that meet ANSI/ISEA 107-2015 standard, or its most current revision, in any operational environments where low visibility is a safety concern (e.g. shipyards, waterfront facilities, roadsides, construction sites, etc.). Chapter 18 of this Manual provides information on PPE for fire and emergency personnel.

   c. Per Reference (b), the use of CBRN PPE is mandatory for the Mission Oriented Protective Posture (MOPP) set by cognizant command authority.

   d. PPE must be provided, used, and maintained in a sanitary and reliable condition per Reference (a).

   e. Damaged or defective PPE must not be used.

3. PPE Selection.

   a. PPE must be selected to ensure proper fit and protection from documented hazards; and employees must be aware of selection criteria.

   b. PPE must be of safe design and construction for the work to be performed.

   c. Federal agencies and standards organizations have developed standards and specifications for the design and use of PPEs and devices. Only use PPEs that that have been recognized and approved by federal specifications or consensus standards/specifications to include but not limited to: American National Standards Institute (ANSI) specifications; Underwriter's Laboratories (UL); and American Society of Testing and Materials (ASTM).

4. PPE Procurement.

   a. Per Occupational Health and Safety Administration (OSHA) standards, the Coast Guard occupational safety and health protection policy, and Coast Guard Master Labor Agreement, the Coast Guard will procure and maintain appropriate PPE(s) employees require to perform their jobs.

   b. PPE includes but is not limited to: metatarsal foot protection; rubber boots with steel toes; non-prescription eye protection; prescription eyewear

inserts/lenses for full-face respirators; googles and face shields; firefighting PPE; hard hats; hearing protection; and welding PPE.

c. PPEs must be replaced as necessary or following the criteria in OSHA's existing specific standards governing PPE replacement. Per Reference (a), PPE replacement must be at no cost to the employee except when employee has lost or intentionally damaged the PPE.

5. Mandatory training for personnel required to use PPE. Training must be provided by a qualified individual who has successfully completed formal training in the selection, use and maintenance of PPE. Each employee required to wear PPE must be trained to understand:

   a. When PPE is necessary;

   b. What PPE is necessary;

   c. How to put on, adjust, wear, and properly remove PPE;

   d. The limitations of the issued PPE; and

   e. The proper care, maintenance, useful life and disposal of the PPE.

6. Re-training. Re-train employees whenever there are:

   a. Changes in the workplace or work practice that renders previous training obsolete;

   b. Changes in the types of PPE; or

   c. Inadequacies in an employee's knowledge or use of assigned PPE indicating that the employee has not retained the required understanding or skill.

7. Training Completion. Training must be recorded using the Training Management Tool (TMT) per Reference (e) and certify that each affected employee has been trained and understands the training. The certification must include the name of the employee trained, the date(s) of the training, person providing training and the subject of the certification.

8. Additional Information. Additional PPE program information and guidance is available by contacting HSWL SC (se).

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must promulgate general PPE policy for the Coast Guard and serve as the Program Manager for the Coast Guard PPE program (excluding PPE for CBRN and DSF operations).

2. Chief, Specialized Capabilities (CG-721). Chief, Specialized Capabilities (CG-721) must promulgate PPE policy and serve as the PPE Program Manager for Coast Guard CBRN and DSF operations.

3. Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC) must provide comprehensive support to assist units in implementing their PPE program, including the following:

   a. Assist units with establishing PPE programs.

   b. Upon request from units, conduct workplace hazard assessments to determine if hazards are present and to characterize exposure risk. Reports should recommend appropriate PPE and provide direction for PPE use, maintenance and storage.

   c. Verify that units with documented hazards have implemented a unit PPE program.

   d. Verify that units have conducted and documented work place assessments to determine if hazards are present.

   e. Verify that prescribed PPE is adequate for known hazards and that personnel are well versed in usage, maintenance and storage requirements.

4. Sector Commanders. Sector Commanders must:

   a. Ensure hazard assessments have been conducted in subordinate units to determine if hazards are present, or are likely to be present, necessitating the use of PPE. Work with subordinate units to document hazards and conduct similar assessments at their units. Consult with the HSWL SC (se) Regional Safety and Environmental Health Office (SEHO) for assistance or to request a hazard assessment.

   b. Verify that the required workplace hazard assessments have been performed through a written certification that identifies the workplace evaluated; the person certifying that the evaluation has been performed; and the date of the hazard assessment. Whenever conditions change, a new hazard assessment must be conducted to determine if prescribed PPE is still adequate or the existing requirement can be relaxed, if the original hazard has been abated.

   c. If indicated by workplace hazard assessment, ensure that PPE programs are established at subordinate units.

   d. Ensure that subordinate units select, procure and each affected employee uses the types of PPE that protects the affected employee from the hazards identified in the hazard assessment.

e. Ensure personnel are properly trained in the use, maintenance, and storage of PPE.

f. Ensure compliance with the prescribed use of PPE. All levels of supervision and management must become involved in this effort and lead by personal example. In cases of noncompliance, management might take disciplinary action as a corrective measure against the offender and the supervisor, as appropriate.

5. Commanding Officers/Officers-in-Charge (COs/OICs). COs/OICs must:

a. Ensure hazard assessments have been conducted to determine if hazards are present, or are likely to be present, necessitating the use of PPE. Sector units must consult with their Sector Safety Manager (SSM) for assistance. Consult with the HSWL SC (se) Regional SEHO for assistance or to request a hazard assessment.

b. Verify that the required workplace hazard assessments have been performed through a written certification that identifies the workplace evaluated, the person certifying that the evaluation has been performed, and the date of the hazard assessment. Whenever conditions change a new hazard assessment must be conducted to determine if prescribed PPE is still adequate or the existing requirement can be relaxed due to abatement of the original hazard.

c. If indicated by workplace hazard assessment, establish a PPE program.

d. Select, procure (at no expense to the employee) and ensure that each affected employee uses the types of PPE that protects the affected employee from the hazards identified in the hazard assessment.

e. Ensure personnel are properly trained in the use, maintenance, and storage of PPE.

f. Ensure compliance with the prescribed use of PPE. All levels of supervision and management must become involved in this effort and lead by personal example. In cases of noncompliance, management might take disciplinary action as a corrective measure against the offender and the supervisor, as appropriate.

6. Assistant Safety Officer (ASO). The ASO must:

a. Assist the CO/OIC by facilitating the development and implementation of the unit PPE program.

b. Conduct hazard assessments to determine if hazards are present, or are likely to be present, necessitating the use of PPE. Whenever conditions change, conduct new hazard assessments to determine if prescribed PPE is still

adequate or the existing requirement can be relaxed due to abatement of the original hazard.

c. Determine if PPE is required based upon the hazards anticipated or recognized.

d. Arrange for appropriate medical evaluations to determine worker capability to perform assigned tasks when there is a reasonable expectation that the use of protective equipment may result in abnormal physiological stress. These evaluations normally are restricted to instances where respiratory protective equipment is required.

e. Train and advice supervisors and employees in the selection, use, tracking, inspection and care of PPE required for their work environment and maintain records of completed training in TMT, per Reference (f). Identify non-use, misuse, or malfunction of PPE which results in, or may result in, injury or occupational illness to unit personnel.

f. Conduct random inspections to ensure that PPE is being properly selected, used, tracked, maintained, cleaned, and stored.

g. Conduct annual inspection of PPE to assess condition. PPE that require replacement should immediately be taken out of service and replaced.

h. Consult HSWL SC (se) for PPE program guidance.

7. Supervisors. Supervisors must:

a. Anticipate and plan for routine and emergency use of PPE.

b. Inform the Safety Manager or ASO of job conditions that require the use of PPE.

c. Ensure that all employees whose jobs require PPE receive instruction in the selection, use, and maintenance of such equipment.

d. Ensure employees are provided with and properly use required PPE.

e. Take appropriate action to implement and enforce the PPE requirements discussed in this Chapter.

8. Employees. Employees must:

a. Demonstrate an understanding of the training specified in this Manual, and the ability to use PPE properly, before being allowed to perform work requiring the use of PPE.

b. Notify the supervisor, Safety Manager or ASO of conditions that require the use of PPE.

c. Obtain and wear appropriate PPE whenever required and per instructions and training received.

d. Participate in training sessions provided by the Safety Manager, ASO or HSWL SC (se).

e. Report any malfunction of PPE to the supervisor and ensure that equipment is maintained in good working order.

CHAPTER 8 THERMAL STRESS PROGRAM

References:

(a) Coast Guard Medical Manual, COMDTINST M6000.1 (series)
(b) TLVs and BEIs Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices, (current edition).
(c) NOAA Heat Stress and Wind-chill Charts, NOAA.gov
(d) Thermal Stress Tactics, Techniques, and Procedures (TTP), CGTTP 4-11.9

A. Discussion. This Chapter outlines program requirements and responsibilities of the Thermal Stress Program, per References (a) through (d) that provide general guidance and policies designed to prevent thermal stress and degraded personnel and mission performance. Coast Guard personnel routinely encounter extreme environments that can lead to thermal stress injury or illness. The conditions that cause thermal stress reside in every unit and in all operational and support environments. It is important to continuously assess environmental conditions and take the necessary action to prevent thermal stress. Reference (d) provides guidance for development of unit's thermal stress program.

B. Program Requirements.

1. Heat Stress. Heat stress refers to a variety of conditions, both environmental and internal physiological responses, which tend to increase body temperature. Heat strain refers to any physiological and/or psychological response to heat stress. Symptoms of heat strain include fatigue, severe headache, nausea, and ineffective physical or mental performance.

   a. Afloat units capable of multiday missions must have at least two (2) calibrated Wet Bulb Globe Temperature (WBGT) meters on board and continue to identify heat stress within their manned spaces, determine the appropriate stay times, establish an effective work rotation schedule, report heat stress casualties, and take the appropriate steps.

   b. Ashore units or Coast Guard vessels without a calibrated WBGT meter and a qualified operator must use the general temperature, a relative humidity monitor and the National Weather Service (NWS) Heat Index Chart to determine risk and implement the appropriate preventive measures.

   c. Acclimatization varies between individuals, some taking longer than others to acclimatize. A minimum period of seven days is required for acclimatization of unseasoned Coast Guard personnel. During this period, progressive exposures to heat and increased physical activity levels must occur. Resting in the heat rather than doing cardiovascular type of work results in only partial acclimatization.

2. Cold Stress. Cold weather environments may lead to serious physiological conditions resulting in injury or death. Cold stress refers to environmental or personal conditions resulting from exposure to cold climatic conditions or submersion in water cooler than normal body temperature. These exposures tend to remove body heat and decrease body temperature. Cold strain refers to physiological and /or psychological responses to cold stress.

3. Prevention Methods. The successful prevention of heat and cold injuries depends largely on education of personnel, especially supervisory personnel. Health Services Technician (HS) must conduct thermal stress training per Reference (a). Equally important is the development of procedures to alert individuals to the existence of dangerous heat and cold stress levels. Controls to reduce both the severity and duration of exposure and adoption of techniques to increase the resistance of exposed persons are:

   a. Engineering Controls.

      (1) Engineering controls are considered the preferred method of controlling thermal stress hazards that affect personnel. Some examples of engineering controls include ventilation, shielding or heaters.

      (2) Coast Guard boats, cutters, aviation, and fixed-facilities must be designed to prevent or at least, minimize exposure of Coast Guard personnel to heat and cold weather. Heat stress and cold exposure discrepancies requiring engineering controls should be reported using the Current Ship's Maintenance Project (CSMP) procedures, and/or Shore Station Maintenance Record (SSMR).

   b. Administrative Controls.

      (1) Ensure personnel are trained to identify the symptoms of heat & cold stress and use the buddy system to watch out for these symptoms.

      (2) Health Services Technicians must conduct thermal stress training per References (a) and (d).

      (3) Ensure personnel consume adequate amounts of fluids, eat three meals a day, and get plenty of rest.

   c. Personal Protective Equipment (PPE). Selection of PPE depends on humidity, temperature, wind, acclimation and other factors including task/mission when selecting the proper clothing.

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must develop and periodically update policy on heat and cold injury prevention.

2. Chief, Human Systems Integration (HSI) Division (CG-1B3). The Deputy Warranting Officer for HSI must ensure that applicable Technical Warrant Holders apply proper requirements and standards to the design and development of new systems, assets and platforms to prevent or mitigate conditions that lead to thermal stress.

3. Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC) must support and assist units in implementing a thermal stress program, including the following:

   a. Provide assistance to units to evaluate thermal stress conditions and recommend preventive measures to avoid adverse health effects to personnel;

   b. Provide thermal stress training per this Manual, as requested;

   c. Evaluate units, through Risk Assessment Survey visits, on their heat and cold injury prevention programs, per this Chapter.

4. Sector Commanders. Sector Commanders must ensure personnel are trained and comply with this Chapter initially and annually thereafter.

5. Commanding Officers/Officers-in-Charge (COs/OICs). COs/OICs must:

   a. Develop a thermal stress program to include training of applicable personnel and Standard Operating Procedures (SOP) to deal with extreme environmental conditions. Reference (d) provides guidance for development of a thermal stress program.

   b. Ensure that preventive measures are taken to prevent thermal stress disorders in unit personnel.

   c. Request assistance from the cognizant Safety and Environmental Health Officer (SEHO) or HSWL SC (se) to evaluate environmental conditions and preventive measures.

   d. Identify work areas which have a potential for thermal stress conditions, as part of the Unit Safety Self-Assessment.

   e. For Coast Guard cutters with assigned HSs, in manned spaces that have a potential for heat stress conditions, monitor the heat stress using a WBGT meter, record the readings, and document as part of the Machinery Log per this Chapter.

   f. Enforce thermal injury prevention methods and ensure personnel are adequately trained.

g. Report all personnel casualties resulting from heat or cold weather exposures as a mishap per Chapter 3 of this Manual.

h. Ensure manned spaces are evaluated and appropriate controls applied to reduce thermal stress in manned spaces.

6. Assistant Safety Officer (ASO). The ASO must:

i. Assist the CO/OIC by facilitating the development and implementation of the unit Thermal Stress program.

j. Conduct hazard assessments to determine if thermal hazards are present, or are likely to be present.

k. Train and advise supervisors and employees in the thermal stress symptoms; preventive measures; and appropriate actions.

l. Consult HSWL SC (se) for Thermal Stress program guidance.

7. Supervisors. Supervisors must ensure that all thermal stress hazards in the workplace are characterized abated and that administrative controls and PPE are used to minimize exposure if necessary.

8. Employees. Employees must:

a. Seek additional guidance from supervisors when risks associated with thermal stress seem unnecessary or excessive.

b. Ensure that they have been properly trained to identify the signs of injury caused by exposure to thermal stress.

CHAPTER 9 RESPIRATORY PROTECTION PROGRAM

References:

(a) Naval Engineering Manual, COMDTINST M9000.6 (series)
(b) American National Standards Institute (ANSI), Z88.2-1992, American National Standard for Respiratory Protection
(c) 29 C.F.R. § 1910.134, "Respiratory Protection"
(d) Coast Guard Medical Manual, COMDTINST M6000.1(series)
(e) Compressed Gas Association, Inc. Commodity Specification for Air, G-7.1-2011
(f) USCG Countering WMD Capabilities Manual (CWMD Manual), COMDTINST M3400.51 (series) (FOUO)
(g) Respiratory Protection Program Tactics, Techniques, and Procedures (TTP), CGTTP 4-11.4

A. Discussion.

1. Background. Many occupational activities generate air contaminants that are unhealthful if inhaled, including but not limited to: harmful dusts, fumes, mists, gases, smokes, sprays, or vapors. The best means of protecting personnel from inhalation hazard is to: eliminate the air contaminant at its source, engineering controls, and use of respirators when neither the elimination of the air contaminant nor use of engineering controls is wholly effective. Operations that can be expected to require the use of respiratory protection are those that meet inhalation exposure action levels, as defined in Chapter 26 of this Manual. If there are questions whether respiratory protection is required for a specific operation, please consult your Health, Safety and Work-life Service Center (HSWL SC) Safety and Environmental Health Officer (SEHO). Typical operations that might require respiratory protection include but are not limited to: Firefighting; Marine Inspections; Transfer Monitoring; Response Activities; Coating Applications; Industrial Operations; and Hazardous Material Activities.

2. Application.

a. This Chapter establishes respiratory protection policy and except as noted in Paragraph A.2.b, applies to all Coast Guard active duty, civilian personnel and visitors who enter an area where respiratory protective equipment, including CBRN protective masks (e.g. M50, M53, etc.), is necessary to protect from unhealthful airborne contaminants.

b. The provisions of this Chapter do not apply to:

(1) Contractors, which must provide their own Respiratory Protection Programs (RPP) and respiratory protective equipment;

(2) Respirators, such as BioPaks, that are used only by the National Strike Force (manufacturer's guidance for use and maintenance must be strictly followed and all personnel must be medically qualified by a licensed health care professional to wear the respirator);

(3) Underwater breathing systems;

(4) Aircraft oxygen systems;

(5) Respirators that are used for emergency escape only;

WARNING: EMERGENCY ESCAPE BREATHING DEVICES (EEBDS) MUST NEVER BE USED FOR ENTRY INTO A HAZARDOUS ATMOSPHERE; THEY ARE FOR ESCAPE ONLY.

(6) Surgical masks worn by medical personnel, dentists, and dental technicians are not considered respirators and are exempted from this Chapter; and,

(7) Protection against military munitions for personnel engaged in offensive operations supporting combatant commands.

3. References. General respiratory program requirements are based on standards and policies contained with References (a) through (e). CBRN respiratory program requirements are based on policies contained in Reference (f). Additional guidance is provided in Reference (g), and is available on the HSWL SC (se) website.

B. Program Requirements.

1. Exposure Assessment. Assessment must be conducted to evaluate workers' inhalation hazards and the need for respiratory protection. Whenever possible, the need for respiratory protection should be based on quantitative exposure assessments or reasonable estimate of employee's exposure to respiratory hazards; and information from the safety data sheet (SDS).

2. Respirator Selection. Respirator selection must be based on the hazards to which the workers are exposed to as determined by the exposure assessment. Except for CBRN protective devices, respirators must be approved by the National Institute for Occupational Safety (NIOSH). Reference (f) provides information for CBRN respirators; and Reference (g) provides guidance on criteria for respiratory selection. Selection of respirators for firefighting and emergency services are addressed in chapter 18 of this manual.

3. Respiratory Protection Program (RPP).

a. Any workplace where respirators are necessary to protect the health of the employee or whenever respirators are required by the unit, must establish; implement; and maintain a written RPP per Reference (c).

b. Units requiring a RPP must designate a Respiratory Program Manager (RPM).

c. Units must provide appropriate equipment to personnel, such as employees, inspectors, and visitors who must enter an area where the use of respiratory protection is required. These personnel must use this equipment regardless of stay time.

d. Units must not permit respirators with tight-fitting face pieces to be worn by personnel who have facial hair that comes between the sealing surface of the face piece and face or that interferes with valve function or any condition that interferes with the face-to-face piece seal or valve function.

e. Units must ensure personnel are medically qualified before issuing a respirator. Additionally, units must fit test, issue, and train personnel to wear respirators. Fit testing must demonstrate that tight-fitting face piece respirators achieve a proper seal.

f. Respiratory protection is required under the following:

(1) When a hazard assessment demonstrates that personnel exposures potentially exceed 50% of the more stringent Occupational Exposure Limit (OEL) as described in Chapter 26 of this manual. Refer to References (f) for CBRN respiratory protection thresholds.

(2) Workers in areas known to have contaminant levels requiring the use of respiratory protection or in which contaminant levels may create a hazard without warning (e.g., emergency purposes such as HAZMAT spill responses; firefighting).

(3) Workers performing operations documented as an inhalation hazard and workers in the immediate vicinity where operations generate hazardous levels of contaminants.

(4) Workers in suspect areas or performing operations suspected of being inhalation health hazardous but for which adequate sampling data does not exist.

(5) Workers performing operations for which the OSHA requires respiratory protection.

(6) Workers performing operations where OSHA permits the employee to choose to use a respirator (i.e., lead).

(7) Any other worker for whom the use of respiratory protection is deemed appropriate by the RPM - for humanitarian or morale use (voluntary respirator use).

g. Voluntary Respirator Use. When respirators are not required (i.e. there is no atmospheric hazard that necessitates the use of respiratory protection AND the employer does not require the respirator use), voluntary use of respiratory protection is allowed if the respirators are issued and controlled by the RPM and the following criteria are met. Refer to References (f) for CBRN respiratory protection thresholds.

(1) Filtering Face pieces – Respirator:

(a) The masks themselves must not pose a hazard to workers.

(b) Annually provide respirator users with the information contained in Appendix D of Reference (c) and the limitations stated on the respirator approval label. Personnel must not supply their own respirators.

(c) NIOSH approved filtering face pieces can be issued without medical screening and fit testing.

(2) Elastomeric Face piece:

(a) All elements of the respiratory protection program must be met.

(b) Except for CBRN protectives masks, NIOSH approved respirators must be selected appropriately for the perceived hazard. Reference (f) provides information for CBRN protective masks.

h. Self-Contained Breathing Apparatus (SCBA) Fit Test and Medical Evaluation. Except as specified in paragraph B.5.b., before wearing or using SCBA, all personnel must complete required fit testing and medical evaluation.

4. Change-Out Schedule. Reliance on odor thresholds and other warning properties as the sole basis for determining that an air-purifying respirator provides adequate protection against exposure to gas and vapor contaminants is not permitted. Units must:

a. Implement a change-out schedule for the chemical canisters/cartridges based on objective information or data that ensures canisters/cartridges are changed before the end of their service life. Units must describe this data, along with the logic for relying on the change schedule, in their respirator programs.

b. Change chemical canisters/cartridges according to manufacturer's directions, or based on objective data obtained.

c. Change out schedules must be in place prior to use of chemical cartridge/canister air-purifying respirators for protection against substances (including isocyanates) without any known or discoverable warnings.

d. Reference (g) provides guidance for development and implementation of change-out schedules.

5. Medical Evaluations.

a. Except as noted in paragraph B.5.b., Units must not fit test personnel unless they have been medically evaluated per Reference (d), which meets the requirements of the OSHA Respirator Standard, Reference (c).

b. Active duty and Selected Reserve personnel, who have been confirmed by medical personnel as "Fit for Full Duty" based on their annual Periodic Health Assessment are considered qualified to wear any type of respiratory protection, unless prohibited by Paragraph B.1.d.

6. Respirator Fit Testing.

   a. Tight-Fitting Face Piece. Unit RPM or trained designated personnel must fit test each individual required to use a respirator with a tight-fitting face piece.

   b. Frequency. Except for personnel required to wear CBRN masks, all personnel enrolled in the respiratory protection program must be fit tested at the time of initial issue, annually and/or whenever there is a change such as significant weight loss or gain; or change in facial feature of the wearer; or a change in the type of respirators use, whichever is sooner. Refer to Reference (f) for CBRN mask fit testing frequency.

   c. Reference. Fit testing must be conducted according to established guidelines. Full-face elastomeric negative pressure air-purifying respirators must be quantitatively fit tested to achieve the more stringent fit factor mandated by Reference (c) or the mask manufacturer. CBRN response operations, including CBRN respirator fit testing requirements, are governed by Reference (f), and meets or exceed standards mandated by Reference (c). Further information is available by contacting HSWL SC (se); Commandant (CG-721); or DOL-44 Mission Essential Personal Equipment (MEPE).

   d. Waiver. Commandant (CG-11) can waive fit testing requirements for voluntary use of the N95 respirator during response activities for pandemic influenza or other respiratory communicable diseases.

7. Inspection and Cleaning. Only personnel who have received training through the RPM shall perform the cleaning, inspection, and maintenance of respiratory protection equipment per Reference (c).

8. Storage. Respirators and filters/cartridges must be stored in a sealed bag to prevent contamination.

9. Training.

   a. Respirator Users.

      (1) Units must ensure proper respirator use by providing all personnel required to use respirators with training. Further information is available by contacting HSWL SC (se).

      (2) Units must train supervisors, persons issuing respirators, and emergency rescue teams per Reference (b).

      (3) Units must document that training occurs in a manner that is understandable to the user. The training must include a demonstration of knowledge regarding donning, doffing, storage, cleaning and fit testing etc. as described in Reference (c).

b. Respiratory Protection Manager (RPM). Respiratory Protection Mangers must demonstrate mastery of the RPP requirements as outlined in this Manual, HSWL SC (se) procedures, Reference (c) and Chapter 12 of Reference (d). RPMs must be re-trained every 5 years. For current respiratory protection information, consult sources such as OSHA and NIOSH home pages.

10. Breathing Air Quality Requirements.

a. Air Quality. Minimum breathing air quality standards are described below.

(1) Except as specified in Paragraph B.10.a.(2), breathing air quality for SCBAs must meet at least the minimum limiting characteristics of Grade D air per Reference (c).

(2) For breathing air used in conjunction with SCBA in extreme cold, where moisture can condense and freeze causing the breathing apparatus to malfunction, the breathing air quality must meet limiting characteristics of a Grade L air per Reference (e).

(3) Chapter 18 of this manual provides specific breathing air requirements for fire and emergency services.

b. Ambient Air Breathing Apparatus (AABA). Air intakes for portable pumps such as the AABA must be placed in an area free of contaminants. Periodic testing of the air quality from an AABA is not required. AABAs must not be used for entry into Immediately Dangerous to Life or Health (IDLH) atmospheres.

c. Quarterly Requirement. Quarterly air quality monitoring is required to maintain air quality standards for SCBAs.

d. Monitoring and Alarm Systems. Units must equip all new and or upgraded air compressor systems with continuous carbon monoxide monitor and alarm systems.

e. Calibration. Calibrate monitor and alarm systems on compressors used for supplying breathing air according to the manufacturer's instructions.

11. Program Evaluation. Unit must conduct a self-audit of the respiratory protection program per Reference (c).

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must develop and periodically update policy concerning respiratory protection (excludes CBRN respiratory protection).

2. Chief, Specialized Capabilities (CG-721). Chief, Specialized Capabilities (CG-721) must provide policy concerning CBRN protective masks.

3. Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC) must support and assist units in implementing a respiratory protection program, including the following:

   a. Ensure the medical qualification requirements of the respiratory protection program agree with Section B.3 of this Chapter. A physician, or the following individuals under the supervision of a physician, may conduct the medical evaluation: a nurse practitioner, an Occupational Health (OH) nurse, a physician's assistant, or an independent duty Health Services Technician with a Licensed Healthcare Professional certification. Reference (d) details the required medical evaluation protocols for respirator users.

   b. Provide Units with a written evaluation on the effectiveness of their program based on occupational medicine and industrial hygiene (IH) reviews.

   c. Provide support to units as needed, in implementation of RPP.

   d. Establish and maintain RPM training requirements and ensure unit RPMs are adequately trained and designated in writing.

4. Sector Commanders. Sector Commanders must:

   a. Implement a comprehensive RPP that includes Standard Operating Procedures (SOP) that govern the selection, care, issue, and use of respirators; emergency and rescue guidance; and cartridge change out schedules (excludes CBRN respiratory protection). Reference (i) provides guidance on development and implementation of RPP.

   b. Designate a qualified RPM in writing. Note: The Assistant Safety Officer (ASO) is qualified to be an RPM.

   c. Ensure RPM successfully completes required training.

   d. Maintain a list of all respiratory hazards at subordinate units.

   e. Ensure adequate funding of units for NIOSH approved respirators, spare parts, and expendable supplies are maintained to conduct routine and emergency operations.

   f. Establish central control points for issuing and maintaining respiratory protection equipment at subordinate units.

   g. Establish procedures to ensure that all sources of breathing air meet the requirements cited in Paragraph B. 10 at subordinate units.

5. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:

a. Implement a comprehensive RPP that includes SOP that govern the selection, care, issue, and use of respirators; emergency and rescue guidance; and cartridge change out schedules (excludes CBRN respiratory protection).

b. Designate a qualified RPM in writing. Note: the ASO is qualified to be an RPM.

c. Ensure RPM successfully completes required training.

d. Establish central control points for issuing and maintaining respiratory protection equipment.

e. Establish procedures to ensure that all sources of breathing air meet the requirements cited in Paragraph B. 10.

f. Ensure that personnel requiring respirator are medically monitored.

6. Respiratory Protection Manager (RPM). The RPM must:

a. Maintain a current roster of personnel enrolled in respiratory protection program.

b. Ensure all respirator users and their supervisors are trained per References (c), (f), and Paragraph B.9. Main documentation of training.

c. Fit test respirator wearers and maintain fit testing records per Reference (c).

d. Ensure a sufficient supply of NIOSH approved respirators, spare parts, and expendable supplies are maintained to conduct routine and emergency operations.

e. Ensure the amount of CBRN masks and filters are on hand per latest Commandant (CG-721) fielding plan and Unit Allowance List (UAL) maintained on the CWMD and CBRN Response site on CG Portal.

f. Coordinate with unit safety personnel to complete a self-evaluation of the unit RPP at least annually.

g. Inspect respiratory protection equipment for damage. Ensure respirators damaged beyond repair are pulled from service and immediately replaced. All new type, make, or model respirators are fit tested to ensure a proper seal.

h. Ensure respirator cartridges and canisters are changed according to the established change out schedule.

7. Supervisors. Supervisors must:

a. Inform the Safety Manager or ASO of work conditions that require the use of respiratory protection.

b. Ensure that all employees whose jobs require respiratory protection receive instruction in the selection, use, and maintenance of such equipment.

c. Ensure employees are provided with and properly use required respiratory protection equipment.

d. Take appropriate action to implement and enforce the respiratory protection requirements discussed in this Chapter.

8. Employees. Employees must:

a. Notify the supervisor or Safety Manager or ASO of conditions that require the use of respiratory protection.

b. Obtain and wear appropriate respiratory protection whenever required and per instructions and training received.

c. Ensure that the employee is medically cleared and fit tested prior to wearing a respirator.

d. Participate in training sessions provided by the Safety Manager, ASO, or HSWL SC (se).

e. Report any malfunction of respiratory protection to the supervisor and ensure that equipment is maintained in good working order.

f. Guard against damage to or loss of respiratory protection equipment.

g. Change respirator cartridges and canisters according to established change out schedule.

CHAPTER 10 HEARING CONSERVATION PROGRAM

References:

(a) TLVs and BEIs Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices, current edition
(b) 29 C.F.R. § 1910.95, "Occupational Noise Exposure"
(c) Department of Defense Instruction (DoDI) 6055.12, Hearing Conservation Program (HCP)", October 25, 2017
(d) Coast Guard Medical Manual, COMDTINST M6000.1 (series)
(e) Hearing Conservation Program Tactics, Techniques, and Procedures (TTP), CGTTP 4-11.11

A. Discussion. The goal of the Coast Guard Hearing Conservation Program (HCP) is to prevent occupational hearing loss and ensure auditory fitness for the military and civilian workforce.

1. Background. Hearing loss has been, and continues to be, a source of concern within all Coast Guard communities. Occupational hearing loss resulting from exposure to hazardous noise, the high cost of related compensation claims, and the resulting drop in productivity and efficiency highlight a significant problem that requires considerable attention. Audible sound control and hearing conservation measures contribute to operational readiness by preserving and optimizing auditory fitness for duty in Coast Guard personnel.

2. Application. This Chapter provides Coast Guard policy and program requirements for control of audio hazards associated with Coast Guard operations. Program requirements are based on standards and policies contained in References (a) through (d). Reference (e) provides detailed guidance on unit development, implementation and maintenance of the HCP.

3. Occupation Exposure Limits (OEL).

   a. For a continuous or intermittent noise source, for an eight (8) hour Time-Weighted Average (TWA), the OEL is 85 dBA.

   b. For impact or impulse noise, the OEL is 140 dB (P) sound pressure level.

   c. Noise exposures shall be calculated at 3 dB (A) exchange rate.

B. Program Requirements.

1. Unit Actions. Units must prepare a written plan for the implementation of a comprehensive HCP. Such plans must address noise assessments during acquisition and the design process. The assessment must include operationally related hearing conservation measures, occupational and operational noise exposure computation and monitoring, noise abatement, hearing protectors, methods for estimating the adequacy of

hearing protector attenuation, and training. HCPs must be implemented per Reference (b) when personnel are occupationally exposed above OEL limits outlined in A.3.

2. Acquisition Programs. Acquisition programs must include noise assessment per Reference (a) and implementation of engineering control measures through the systems engineering and systems safety process when:

   a. Similar legacy systems have recognized noise exposure concerns.

   b. New systems are considered likely to create noise exposure concerns.

   c. Communication is anticipated to be potentially impaired by background noise caused by new equipment.

3. Hearing Conservation Program Elements. The program elements consist of the following:

   a. Noise Measurements and Exposure Assessments. In order to effectively control noise, it is necessary to accurately identify hazardous noise sources, measure noise according to standard procedures, and properly evaluate the measurements against accepted criteria.

      (1) Perform surveys of work environments to identify potentially hazardous noise areas.

      (2) Assess noise in all potentially hazardous noise work areas initially and reassess when there is a change/modification in procedures and or equipment.

      (3) Conduct noise measurement and analyses to determine noise levels and personnel at risk.

      (4) Noise measurements must be conducted by qualified personnel.

   b. Medical Surveillance.

      (1) Coast Guard members exposed to continuous or intermittent noise that has an 8-hour TWA noise level of 85 dBA or greater at least one day per calendar year; or exposed to impulse/impact noise SPL of 140 dB (P) or greater must be enrolled in a medical surveillance program. Chapter 12 of Reference (c) provides enrollment procedures for Coast Guard Occupational Medical Surveillance and Evaluation Program (OMSEP).

      (2) Per references (a) and (c), if toxic chemicals are present in hazardous noise areas, the chemicals may act in additive or synergistic mode to increase the risk of hearing loss. Periodic audiograms shall be performed where there are exposures to noise and toxic chemicals such as but not limited to: carbon monoxide (CO), lead (Pb), manganese (Mn), styrene, toluene, or xylene.

c. Engineering Controls. Reduction of noise at the source is in the best interest of the Coast Guard and its personnel. Whenever technologically and economically feasible, units must modify equipment and environments to reduce hazardous noise to acceptable levels established by this Chapter.

d. Administrative Controls.

(1) The cognizant medical facility must conduct periodic audiometric hearing tests that allow regions or activities, as appropriate, to monitor the effectiveness of the HCP. Early detection of temporary threshold shifts allows further protective action to be taken before permanent hearing loss occurs. Conduct necessary follow-up evaluations to ensure appropriate referral, treatment and prompt return to duty.

(2) Individuals exposed to hazardous noise, their supervisors, and people providing hearing conservation services (e.g. training, monitoring, hearing protection, etc.) must receive hearing conservation training. Training of these individuals is vital to the overall success of a HCP.

e. Hearing Protective Devices.

(1) The use of personal hearing protective devices to limit noise exposure should only be an interim protective measure while implementing engineering controls. Where engineering controls are not feasible, units must employ administrative controls and/or the use of hearing protective devices.

(2) Hearing protective devices must be able to reduce the member's effective exposure at or below the OEL as specified in A.3.

(3) Hearing Protective devices must be available at no cost to members and used when entering designated hazardous noise areas.

(4) Hearing protective device must be worn in areas where operations generate noise levels above the OEL in paragraph A.3.

f. Access to Information. On request, Coast Guard units must provide:

(1) Personnel with copies of Coast Guard Directives issued on the HCP and the latest approved Occupational Safety and Health Administration (OSHA) standard. (See Reference (b)).

(2) Workers, former workers, and representatives designated in writing by the individual employees, with copies of all records about the audiometric testing and noise exposure in compliance with HIPAA.

g. Record Keeping.

(1) All HCP audiometric testing data must be maintained.

(2) Documented results of hearing tests performed for HCP and exposure must be a permanent part of service member's medical record.

(3) Noise exposure data must be kept for the duration of employment plus 30 years.

h. Noise Hazard Signs and Labels. Units must label designated hazardous noise areas and equipment that produce sound levels 85 dB (A) or greater, or 140 dB (P) SPL.

(1) Noise Area. All potentially hazardous noise areas must be clearly identified by signs located at their entrances or boundaries. Units must not post an entire building as a hazardous noise environment unless nearly all areas within the building are designated as hazardous noise areas.

(2) Equipment. Each tool or piece of equipment producing noise levels greater than 85 dB (A) must be conspicuously marked to alert personnel of the potential hazard. The exception must be when an entire space is designated as a hazardous noise area and the equipment is stationary. Exteriors, but not interiors, of military unique equipment are excluded from this requirement.

(3) Sign Descriptions. Use signs describing (with words or other visual symbols) the potential hazards and protective measures that must be taken in designated hazardous noise areas.

(a) Any work area or equipment where the sound pressure level is 85 dB (A) or above (continuous or intermittent) must be considered noise hazardous.

(b) Any work area or equipment where the sound pressure level is 140 dB (P) or greater (impulse or impact) must be considered noise hazardous.

(c) Areas or equipment where the sound pressure levels are 85 dB(A) or greater, but less than 96 dB(A), must be labeled and must require the use of single hearing protection (approved ear plugs or circumaural muffs) that attenuates worker noise exposure below an 8-hour TWA of 85 dB(A). Areas or equipment where the sound pressure levels are 96 dB(A) (i.e., the effective field degraded upper limit of most plugs or muffs) or greater must be labeled and must require the use of double hearing protection that attenuates worker noise exposure below an 8-hour TWA of 85 dB(A).

(d) Areas or equipment where the sound pressure levels are 140 dB(P) or greater, but less than 165 dB(P) (impulse or impact), must be labeled and must require the use of single hearing protection that attenuates worker noise exposure below 140 dB(P).

(e) Areas or equipment where the sound pressure levels are 165 dB(P) (impact or impulse) or greater must be labeled and must require the use of double hearing protection that attenuates worker noise exposure below 140 dB(P).

i. Additional Information. Further information is available by contacting HSWL SC (se).

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) shall develop and periodically update hearing conservation policy.

2. Chief, Human Systems Integration (HSI) Division (CG-1B3) The Deputy Warranting Officer for HSI must ensure that applicable Technical Warrant Holders apply proper requirements and standards to the design and development of new systems, assets and platforms.

3. Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC). HSWL SC must provide support services to the unit CO to assist with implementation of their HCP to include but not be limited to:

   a. Ensuring that units have established a comprehensive HCP, when required.

   b. Ensuring that all appropriate individuals are identified and participate in the Program.

   c. Appointing a qualified person to oversee the Coast Guard HCP with the appropriate training.

   d. Maintaining noise monitoring equipment and conduct exposure monitoring as requested by Coast Guard units.

   e. During Risk Assessment Surveys, identifying, measuring, and evaluating personnel exposures to noise sources as well as ensuring that members, who are exposed above the OEL in A.3, are enrolled in a medical surveillance program.

   f. Assisting units in selecting engineering and administrative controls and hearing protective devices.

4. Sector Commanders. Sector Commanders must:

   a. Maintain a list of all noise hazards at subordinate units.

   b. Maintain a list of current roster of personnel enrolled in HCP.

   c. Ensure adequate funding of units for required hearing protection devices.

5. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:

   a. Develop and implement a HCP program as applicable.

   b. Appointment in writing, a HCP manager.

   c. Ensure unit personnel are not overexposed to noise hazards.

d. Ensure that personnel exposed to hazardous noise receive initial and refresher training in hearing conservation and are enrolled in medical surveillance program.

e. Ensure that all noise areas and sources are properly labeled and posted.

f. Request assistance from the cognizant Safety and Environmental Health Officer (SEHO) or HSWL SC (se) to evaluate noise sources and exposures.

g. Ensure that adequate funds are available to provide for noise monitoring, engineering controls, and procurement of examination services and hearing protection devices for all employees placed in the HCP.

5. Supervisors. Supervisors must:

a. Ensure employees are not overexposed to noise hazards.

b. Ensure that employees exposed to hazardous noise receive initial and refresher training in hearing conservation.

c. Ensure that all noise areas and sources are properly labeled and posted.

6. Employees. Employees must:

a. Wear appropriate PPE (hearing protective device) when exposed to hazardous noise in the course of their job.

b. Ensure that they are enrolled in the unit's medical surveillance program for noise if they are exposed to noise hazards and are required to wear hearing protection.

c. Ensure they receive annual audiograms if enrolled in the unit's medical surveillance program for noise.

CHAPTER 11 HAZARD COMMUNICATION PROGRAM

Reference:

(a) 29 C.F.R. § 1910.1200, "Hazard Communication"
(b) 29 C.F.R. § 1910.1450, "Occupational Exposure to Hazardous Chemicals in Laboratories"
(c) FAR 52.223-3, "Hazardous Material Identification and Material Safety Data," (current Edition)
(d) C.F.R. § 1910.120(q), Hazardous Waste Operations and Emergency Response
(e) U.S. Coast Guard Marine Environmental Response and Preparedness Manual, COMDTINST M16000.14A (series)
(f) Hazard Communication (HAZCOM) Program Tactics, Techniques, and Procedures (TTP), CGTTP 4-11.5

A. Discussion.

1. Background.

   a. Hazard Communication (HAZCOM). The Coast Guard's HAZCOM Program ensures that all chemical substances brought into the workplace are assessed, managed, and if required, classified for their physical and health hazards. Information concerning these hazards is transmitted to those employees with potential exposure (i.e., an employee subjected to the hazardous chemical in the course of employment) under normal working conditions or in an emergency.

   b. Hazardous Waste Operations and Emergency Response (HAZWOPER). HAZWOPER applies to Coast Guard members who are exposed to or have the potential to be exposed to hazardous materials (HAZMAT) including oil, toxic chemicals, substances or waste during unit or response cleanup operations. This encounter can be voluntary or non-voluntary exposure. This chapter also provides health and safety training requirements for Coast Guard members responding to HAZMAT spills or emergency response operations.

2. Application. Only those chemicals that have been determined to pose a health or physical hazard are included in the HAZCOM Program. Consumer products purchased and used strictly as consumer products are exempt from requirements B.1-4 of this Chapter. Reference (a) contains other exclusions. Consult with the Unit HAZCOM Program Manager, HAZMAT Officer or Supervisor if there is an uncertainty as to a chemical's inclusion.

3. References. HAZCOM program requirements are based on standards and policies contained in References (a) through (c). Reference (d) provides training requirements for HAZWOPER personnel, including personnel responding to HAZMAT spills. Reference (e) provides the Coast Guard policies; requirements; and procedures for marine environmental response. Coast Guard personnel responding to HAZMAT spills should review this manual extensively for marine environmental guidance. Reference (f) provides additional guidance.

B. Program Requirements. The requirements for a hazard communication program are:

1. Written Hazard Communication Plan.

   a. All Coast Guard workplaces using or producing HAZMAT must have a written HAZCOM plan. Reference (f), available on the Health, Safety and Work-Life Service Center (HSWL SC) website provides additional guidance on development and implementation of Unit HAZCOM program. Further information is available by contacting HSWL SC (se).

   b. All Coast Guard workplaces with laboratories must develop a written chemical hygiene plan per Reference (b). These plans must be readily available to all affected personnel and include any installation unique procedures about the local purchase of HAZMAT.

   c. Where feasible, units must substitute chemicals that have a high toxicity level with ones that are less toxic or non-hazardous. For toxicity clarifications, review chemical-specific Safety Data Sheet (SDS).

   d. The HAZCOM plan must include information for contractors. This will help ensure that contractors bringing HAZMAT onto Coast Guard installations must:

      (1) Provide sufficient time for local personnel to receive and review the information, and then ensure the safety and health of personnel is properly coordinated.

      (2) Provide copies of SDSs and labels of the HAZMAT to the contracting officers, who must forward these documents to the Unit HAZCOM Program Manager, HAZMAT Officer at least 5 working days before the HAZMAT are brought onto the installation.

2. Chemical Hazard Classification. Per Reference (a), rely on manufacturers, importers and distributors to perform the appropriate hazard classification for the substances they produce or sell.

3. Hazardous Chemical Labeling System. Scrutinize labels on all incoming containers and ensure labels contain the required written or graphic material per Reference (a).

4. Container Labels. Ensure that containers of hazardous chemicals in the workplace are labeled, tagged, or marked accordingly and that the label or other form of warning is legible and prominently displayed on the container and have the information readily available. For the purpose of this requirement, “container” means any bag, barrel, bottle, box, can, cylinder, drum, reaction vessel, storage tank, or the like that contains a hazardous chemical. Pipes and piping systems are not considered containers.

5. Safety Data Sheets (SDS). Per Reference (c), chemical manufacturers and importers are required to obtain or develop a SDS for each hazardous chemical they produce or import. Coast Guard, as a user, must have a SDS in the workplace for each hazardous chemical that they use or store.

a. SDSs must be readily accessible to all workers while in their work area, when workers are required to use HAZMAT or when workers are at risk of exposure to HAZMAT.

b. A product must not be released for use until a completed SDS is on file.

c. If the SDS is not available, units must notify the manufacturer that a SDS is needed and obtain the SDS from the manufacturer prior to use of the HAZMAT.

d. Units may use Defense Logistics Agency Hazardous Materials Information Resource System (HMIRS) Next Generation (NextGen), a database that provides comprehensive information on chemicals used in the DoD and rest of federal government agencies. The site includes common hazardous materials managed/purchased by the Coast Guard with a link to various SDSs. Access to this database requires registration.

6. Employee Information and Training. Employees must be provided orientation on the purpose and requirements of this program and specific training on hazardous chemicals in their workplace. Specific training on the hazardous chemicals in the work area must be conducted at the time of a new employee's assignment, when a new chemical is introduced in the workplace, or whenever the need exists.

a. HAZCOM. HAZCOM training programs must meet the requirements per Reference (a).

b. HAZWOPER. Coast Guard employees responding to HAZMAT spills must be trained in accordance with OSHA's HAZWOPER standard, per Reference (d). Coast Guard employees, who encounter HAZMAT spills while on duty or are expected to respond to HAZMAT cleanup operations, shall be trained, certified and documented as emergency responders. The training shall be appropriate for the level of response, job function, and role, starting at First Responder Awareness (FRA) level and include site-specific hazard information. At the First Responder Operations (FRO) level, the responder is trained per details spelled out in Reference (d) and include items such as: hazard risk assessment for cleanup, appropriate personal protective equipment (PPE); HAZMAT terms, control, containment and confinement of HAZMAT within their Area Of Responsibility (AOR); and implementation of basic decontamination. Note: Units with Legacy HAZWOPER Instructors may continue with their training.

c. HAZMAT Technician & HAZMAT Specialist. These are specialties designating individuals with advanced training in HAZMAT emergency response. These responders require specific knowledge, skills and abilities, beyond the scope of FRA and FRO. The HAZMAT Technician and HAZMAT Specialists assume aggressive roles and approach the spill at the point of release to plug, patch or otherwise stop the release. They may also liaise with Federal, State and local entities. In general, Coast Guard Strike Teams perform many of these operations in the field. However, on many responses, the Pollution Responders (PR) and Federal On-Scene Coordinator's Representatives (FOSCR) are called upon to assess, check or even evaluate the

performance of an on-scene HAZMAT Technician or Specialist during a response. These members must attend specialized training as prescribed by their appropriate capability manager or operational commander.

d. On-line Training – FRA: This training is for Coast Guard members likely to witness or discover a hazardous substance release. These members are trained to initiate a response but are not responsible for the cleanup. In addition to the regular Unit HAZCOM training, the HAZWOPER FRA training requires additional emergency response training. At a minimum, this training must include these elements: PPE; regulatory overview; decontamination; hazard communication; and emergency response and spill control.

e. On-line Training – FRO. In addition to the general HAZCOM and HAZWOPER FRA trainings, the HAZWOPER FRO training content must also include, at a minimum, hazard risk assessment techniques applicable to clean up of HAZMAT; basic first aid; biosafety hazardous waste handling and disposal; global safety principle regarding materials in the work place; and spill prevention and control.

f. On-line Resources – FRA and FRO. Some on-line trainings are available on Skillport, and can be accessed through Coast Guard Portal at: https://cg.portal.uscg.mil/training/SitePages/Home.aspx. Select the "Training & Education" tab. Click on the "Skillport" tab in the "Voluntary Programs" column. Click on SkillPort (single sign-on). Search within the "Content Bar" for specific HAZWOPER trainings. The Skillport website is one of many options available for Coast Guard members to use for some of annual/refresher FRA/FRO trainings. Any additional online or classroom training certified to meet OSHA 1910.120 (q) HAZWOPER requirements are acceptable for annual/refresher training.

g. Record Keeping. Individual training records/certificates must be maintained at the unit. Local commands must annually certify and document responders understand relevant standard operating procedures (SOPs) and termination procedures for their local AOR. No unit can meet all the initial/refresher requirements of FRO with an online program due to the need for AOR-specific trainings. Units must develop AOR/Unit specific FRO trainings and track individuals who complete trainings required in this chapter. Unit training officers shall track (1) FRA and (2) FRO trainings to include AOR-specific trainings in the Training Management Tool (TMT).

h. Refresher Training. Refresher training shall be conducted annually, in accordance with Reference (d).

i. Unit Training Matrix. Table 11-1 contains a general overview of Coast Guard members who may require HAZWOPER FRA/FRO trainings. Commanding Officers must make the final determination of applicability.

7. Medical Surveillance. Per Reference (d) members of HAZMAT emergency response teams must be medically monitored. Information on the Coast Guard Occupational Medical Surveillance Program (OMSEP) is provided in Chapter 12 of Reference (e).

Table 11-1: General FRA-FRO Unit Training Matrix

General FRA-FRO Unit Training Matrix

Unit Type	Personnel requiring training	First Responder Awareness (FRA)	First Responder Operations (FRO)
All	All personnel (Active Duty, Reserve, AUX, civilian)	X	
	All Operational Forces (Active Duty, Reserve, AUX, civilian)	X	
	Command Center staff	X	
Sectors	Command Cadre	X	X
	Public Affairs	X	
	Prevention Dept -- All	X	
	Aids to Navigation Teams	X	X
	ANT Boat Crew	X	X
	Response Dept -- All	X	X
	Incident Management Div	X	X
	Stations/Station (sm)	X	X
	Small Boat Crews	X	X
	Logistics Dept -- All	X	
	Planning Dept -- All	X	
Vessels	Cutters	X	X
	Tenders	X	X
	Patrol Boats	X	X
	VOSS/SORS personnel	X	X
Law Enforcement	Security Boarding Teams	X	X
AIRSTAs	All personnel	X	
Fire Departments		X	X
MISC -- ICS & emergency response organization	Incident Commander/Deputy	X	X
	SOFR	X	X
	OPS Section Chief	X	X
	OPS Field Personnel	X	X

Note: Boxes with "X" indicate the training is generally required for personnel at those types of units or in those particular billets. Boxes left blank indicate the training should be conducted as needed. Personnel should always have the highest level of training based on the tasks or positions they may hold at their unit. **This matrix is not comprehensive and is meant to be a basic guideline** for Coast Guard members who may need FRA and FRO.

Note: Units may require FRO for missions involving Countering Weapons of Mass Destruction (CWMD) as spelled out in the Countering WMD Capabilities Manual (CWMD Manual) COMDTINST M3400.51(s).

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must develop and periodically update policy concerning HAZCOM/HAZWOPER.

2. Headquarters Capability Managers and Mission Managers. Headquarters Capability Managers and Mission Managers must periodically review HAZWOPER FRA/FRO applicability to the forces they manage and direct implementation.

3. Area Commanders. Area Commanders must ensure subordinate compliance with HAZWOPER FRA/FRO training requirements.

4. Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC) must:

   a. Support and assist units in implementing a HAZCOM/HAZWOPER program.

   b. Provide units with a written evaluation on the effectiveness of the program based on Industrial Hygiene (IH) reviews.

5. Commanders/Commanding Officers/Officers-in-Charge (COs/OICs). Commanders/Commanding Officers/Officers-in-Charge (COs/OICs) must:

   a. Establish a HAZCOM program to include all the contents in paragraph B, and appoint a HAZCOM program manager or a HAZMAT Officer to administer the program.

   b. Ensure that any member designated to administer the HAZCOM program has completed the Assistant Safety Officer Course (formally known as the Unit Safety Coordinator Course). The HAZCOM Program Manager can be the HAZMAT Officer or any other member that successfully completes the required training.

   c. Ensure the HAZMAT Officer successfully completes required training.

   d. Maintain a record of all chemicals ordered and issued at the unit.

   e. Establish a central control point for issuing and distributing chemicals.

   f. Develop SOPs governing the selection, issue, and use of chemicals. SOPs must provide guidance on efforts to reduce quantity and toxicity of stored chemical hazards. SOPs must include emergency and rescue guidance, as necessary.

   g. Ensure all chemical users and their supervisors are trained per References (a). Maintain training records.

h. Develop AOR-specific HAZWOPER FRA/FRO training for emergency response operations per Section B.6.b-h. For details on emergency response operations, refer to Reference (e) or contact District Response (dr) staff.

i. Ensure Unit training officer tracks individuals who complete trainings required in this chapter. Unit training officer shall track (1) FRA and (2) FRO trainings to include AOR-specific trainings in TMT.

j. Ensure Coast Guard employees, who have the potential to encounter HAZMAT spills while on duty or are expected to respond to HAZMAT cleanup operations, are trained, certified and documented as emergency responders; and, the HAZWOPER training is appropriate for the level of response, job function, and role, starting at awareness level. Ensure that refresher training is conducted annually.

k. Ensure that HAZMAT response team members are enrolled in medical surveillance program.

l. Self-evaluate the program at least annually.

m. Consult with the HSWL SC (se) District Safety and Environmental Health Office (SEHO) for assistance.

6. Supervisors. Supervisors must:

a. Ensure all employees using chemicals are trained per Reference (a).

b. Evaluate employee knowledge of the HAZCOM program and of common chemicals used in the workspace at least annually.

7. Employees. Employees must:

a. Be aware of all chemicals encountered in the workspace, the hazards posed by those chemicals, possible symptoms of overexposure, and the PPE requirements to minimize exposure.

b. Notify the supervisor if ever required to use an unknown substance, prior to risking exposure to that substance.

CHAPTER 12 ASBESTOS CONTROL PROGRAM

References:

(a) 40 C.F.R. § 61, Subpart M, "National Emission Standard For Asbestos"
(b) 42 U.S.C. §7401 et seq., Clean Air Act
(c) 29 C.F.R. § 1910.1001; 1926.1101; & 1915.1001, Asbestos
(d) 40 C.F.R. §763 Asbestos
(e) Coast Guard Medical Manual, COMDTINST M6000.1 (series)
(f) Asbestos Management Tactics, Techniques, and Procedures (TTP, CGTTP 4-11.1

A. Discussion. This Chapter provides an awareness of potential safety and health problems that could result from the use or disturbance of Asbestos-Containing Material (ACM). ACM is defined as any material containing greater than 1% asbestos by weight. Materials containing less than 1% asbestos by weight still require methods to control employee exposure. This Chapter also outlines general precautions designed to make all Coast Guard employees aware of methods to eliminate or control hazards associated with asbestos.

1. Background. Although the use of ACM has virtually been eliminated in new construction, it is still present in various materials at units throughout the Coast Guard. Examples of asbestos use include insulation materials sprayed on structural surfaces, fireproofing around ventilation ducts, insulation on exterior surfaces or air-handling ducts, and insulation on piping (primarily valves and fittings on steam and chilled water lines). In addition, ACM such as Transite and heat resistant gloves, cloth, and rope have been used in the past. Even ambient air may contain a low level of asbestos "dust" from deteriorating vehicle brake linings, roadways, and building materials.

2. Application. This Chapter provides the Coast Guard policy for management of ACM hazards associated with occupational exposures. Information for management of asbestos, lead, and radon in Coast Guard controlled housing and Child Development Centers is found in Chapter 25 (Environmental Health Program).

3. References. Program requirements are based on standards and policies contained in References (a) through (d). Chapter 12 of Reference (e) provides information for Coast Guard Occupational Medical Surveillance Program (OMSEP). Guidance for unit management of ACM is provided in Reference (f), available on the HSWL SC (se) website.

B. Program Requirements.

1. Prohibited Activity. Except as permitted in Paragraph B.2 below, the removal, repair, or disposal of ACM by Coast Guard military and civilian personnel is prohibited.

2. Authorized Activity.

a. Commanding Officers (COs) are authorized to allow certified and state-licensed personnel to inspect, assess, remove, repair, and dispose of ACM per federal and state regulations to include all elements in References (a) to (d).

b. COs electing to develop a unit-level asbestos abatement program must ensure strict compliance with all federal requirements including industrial hygiene exposure monitoring, hazard controls, and third party post-abatement aggressive clearance sampling.

c. Units that establish asbestos abatement program must notify HSWL SC Safety and Environmental Health (SEH) Division prior to engaging in any asbestos abatement operations.

d. Afloat units are prohibited from removing, repairing, and disposing of ACM, except during underway casualty repair work which has the approval of the vessel's CO or personnel delegated with this authority by the CO such as Damage Control Central.

3. Permissible Exposure Limits (PEL). Unprotected personnel must not be exposed to airborne asbestos fiber concentrations greater than the PEL of 0.1 fibers per cubic centimeter (0.1 f/cc) calculated as an 8-hour Time-Weighted Average (TWA) exposure.

4. Excursion Limit (EL). The EL is 1.0 f/cc averaged over a 30-minute sampling period. EL must be considered along with the PEL when characterizing the risk.

5. Asbestos Control. Units must control asbestos hazards by substituting with asbestos-free material, or when this is not possible, through the use of engineering controls, administrative controls, and respiratory protection.

6. Undamaged Asbestos. Do not remove installed ACM, which is not damaged, for the sole purpose of eliminating asbestos.

7. Asbestos-Containing Material Management Program. Units with ACM must implement and maintain an ACM management program per References (a) through (d). At a minimum, the ACM management program must consist of but not limited to: Unit-specific Asbestos Management Plan (AMP); a roster of employees authorized to perform minor ACM removal or repair (operations and maintenance (O&M)) activities; housekeeping procedures for areas where ACM is present; clean-up procedures when asbestos fibers are released accidentally or intentionally; and disposal of ACM waste.

8. Asbestos Management Plan (AMP). The AMP provides long-term solutions that eliminate personnel exposure to airborne asbestos fibers in Coast Guard workspaces through cost effective management of ACM. The AMP includes several key elements including ACM inventory, inspection and condition assessment records. Reference (f) includes AMP and ACM Inventory and Inspection and Condition Assessment forms in addition to guidance on implementation of a comprehensive asbestos management program.

9. Medical Surveillance. All employees exposed to airborne asbestos at or above the PEL, or EL for 30 days or more; or meet the Coast Guard Medical Surveillance Criteria in Chapter 12 of Reference (e) must be enrolled in Coast Guard Occupational Medical Surveillance Program (OMSEP). Chapter 12 of Reference (e) provides information on OMSEP.

10. Asbestos Program Manager (APM). The Asbestos Program Manager (APM) must be appointed in writing by Unit's CO to implement the Unit's Asbestos Management Program.

    a. Smaller Units, with host-tenant relationships, can use the building manager or facilities representative to act as the liaison with the host, when a written agreement exists specifying that the host must perform the APM's duties.

    b. When such a written agreement exists, training requirements for the Unit representative are mutually agreed.

11. Training. Individuals that work with ACM must be trained and licensed (if applicable) in accordance with References (c) and (d) and applicable state regulations. Such individuals include, but not limited, to:

    a. All individuals exposed to airborne asbestos at or above the PEL and/or excursion limit.

    b. Units authorized to perform work as defined in Section B.2.

    c. Individuals who perform housekeeping operations in areas which contain asbestos or ACM.

    d. Personnel required or assigned to provide oversight for contracted ACM abatement projects must have sufficient training to recognize regulatory-required hazard controls, be able to recognize and validate proper implementation of safe work practices, and understand safe preoccupancy requirements including post abatement aggressive air sampling. Contact HSWL SC (se) for information on the appropriate training.

    e. All trainings must be conducted at the time of/or prior to initial assignment and at least annually thereafter, especially for shipyards and industrial facilities.

12. Contract Work.

    a. Contract work to be performed by a private contractor in Coast Guard shore facilities and afloat units must comply with appropriate Occupational Safety and Health Administration (OSHA) and EPA regulations.

    b. The contracting officer (KO) and/or contracting officer representative (COR) must ensure that final documentation including post abatement clearance sampling results are provided to the unit APM and incorporated in the unit's AMP.

13. Federal Standards.

    a. Environmental Protection Standards. All Federal, State, and local requirements, including emission standards and the provisions of this Chapter must be met. The National Emission Standards for Asbestos are contained in References (a) and (b).

The training and accreditation requirements for various disciplines are contained in Reference (d).

b. Occupational Health and Safety Administration (OSHA). The OSHA standard is contained in Reference (d).

14. Disposal. Per Reference (a), Units must properly contain, label and dispose asbestos and ACM in an approved landfill and ensure that written notification of disposal activities is provided to EPA and or cognizant state and local agencies.

13. Labeling Requirements.

a. General. Attach labels to all products containing asbestos and ACM greater than 1.0% by weight as well as to all containers or bags containing asbestos waste materials. Where feasible, all ACM installed and in use should be labeled. Indelible stenciling can be used for labeling.

b. Description. All labels must contain a statement warning against the hazards of breathing airborne asbestos fibers. Labels must have large letters and contain a contrasting background as depicted in Reference (c).

14. Record Keeping Requirements. The following records must be maintained:

a. Exposure Monitoring. Exposure monitoring records of individual employees shall be kept for 30 years.

b. Medical Surveillance. Medical surveillance records of each employee shall be kept for the duration of the employee's employment plus 30 years.

c. Employee Training. Records of employee training shall be kept for one year beyond the employee's employment with the Department of Homeland Security (DHS).

d. Asbestos Waste Shipping Papers. Copies of asbestos waste shipping papers used to dispose of asbestos waste materials are retained for two years from the date the waste was accepted for transfer to the waste disposal facility. These papers include documents properly signed by officials of the transporter, of the facility to which the waste was delivered, and of any interim and final disposal sites.

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must develop and periodically update policy concerning asbestos.

2. Commanding Officer, Shore Infrastructure Logistics Center (SILC). Commanding Officer, Shore Infrastructure Logistics Center (SILC) must:

a. Verify assigned units and facilities comply with References (a) through (c).

b. Provide asbestos management technical expert oversight per Reference (c).

c. Ensure KOs and CORs receive the appropriate level of training to adequately plan, design, oversee and review projects impacting asbestos-containing materials.

3. Commanding Officer, Surface Forces Logistics Center (SFLC). Commanding Officer, Surface Forces Logistics Center (SFLC) must:

a. Maintain a database of all cutters and boats with ACM.

b. Coordinate the safe removal and remediation of ACM from vessels per Paragraph B.

4. Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC). Commanding Officer, HSWL SC must support and assist units in implementing an asbestos awareness program, including the following:

a. The cognizant HSWL SC Detached SEHO must conduct periodic administrative and on-site audits of unit's asbestos management programs and operations as well as evaluate units on the effectiveness of their program based on occupational medicine and Industrial Hygiene (IH) reviews.

b. Provide professional, technical, and training assistance to Coast Guard units for the purpose of evaluating the potential for asbestos exposure.

5. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:

a. Implement an asbestos management program for applicable units.

b. Provide all required resources and personnel to ensure successful management of the program.

c. Appoint an APM in writing, to develop and implement the requirements of this Chapter to include an AMP, if ACM is identified.

d. Ensure the APM successfully completes required training per References (a) and (b).

e. Prohibit the abatement (removal, repair, etc) and disposal of ACM by Coast Guard military and civilian personnel, except as permitted in paragraph B.2 of this Chapter.

f. Ensure all asbestos workers including supervisors are trained per federal and state regulations.

g. Maintain a current roster of personnel enrolled in OMSEP.

h. Self-evaluate the program at least annually. HSWL SC (se) IH periodic reviews of the asbestos management program do not constitute a self-evaluation.

i. Notify and request CG HSWL SC (se) to conduct identification testing when a potential asbestos hazard is suspected.

j. Train all hands who work in areas where ACMs are present to recognize and report damaged ACM.

k. Implement Operations & Maintenance (O&M) plans to include routine inspections; monitoring procedures; and control measures to ensure ACMs are not disturbed and are maintained in good condition.

l. Comply with the National Emission Standard for Asbestos.

m. Maintain a current copy of applicable State and local asbestos requirements.

n. Ensure an asbestos hazard awareness briefing is provided to personnel, taking into consideration those individuals that dwell in Coast Guard owned housing units with identified ACM.

o. For Afloat units, have appropriately trained small scale, emergency asbestos abatement personnel on board while underway.

p. Coordinate with CG HSWL SC (se) to develop and implement an asbestos management plan if ACM is identified on the vessel.

6. Supervisors. Supervisors must:

a. Visually inspect all workspaces known to contain ACM for damaged and/or friable material, and report damaged suspect or confirmed immediately.

b. Ensure that all employees under their supervision who work in areas known to contain ACM have received the required training; and possess a thorough understanding of the nature of the hazard and the protective procedures to eliminate the exposure; and if applicable are enrolled in medical surveillance program.

7. Employees. Employees must:

a. Visually inspect all workspaces known to contain ACM for damaged and/or friable material and report suspect or damaged ACM immediately.

b. Carry out duties in compliance with this Chapter and References (a) through (c).

CHAPTER 13 CONFINED SPACE ENTRY PROGRAM

References:

(a) 29 C.F.R. § 1915, "Occupational Safety and Health (OSH) Standards for Shipyard Employment"
(b) International Association of Classification Societies (IACS), No. 72, Rev 2 (April 2007) Confined Space Safe Practice
(c) 29 C.F.R. § 1910.146, "Permit Required For Confined Spaces"
(d) Naval Ships Technical Manual, Chapter 074, Volume 3, Gas Free Engineering
(e) Naval Engineering Manual, COMDTINST M9000.6 (series)
(f) NAVAIR 01-1A-35, Maintenance Instructions, Aircraft fuel Cells and Tanks
(g) US Coast Guard Maritime Law Enforcement Manual (MLEM), COMDTINST M16247.1 (Series) (FOUO)
(h) 29 C.F.R. § 1926.956, "Underground Lines"
(i) Marine Safety Manual, Volume 1, Administration and Management, COMDTINST M16000.6 (series).
(j) SFLC TECHNICAL STANDARD 074-2
(k) Maritime Security and Response Operations (MSRO) Manual, COMDTINST M16600.6 (series)
(l) U.S. Coast Guard Marine Environmental Response and Preparedness Manual, COMDTINST M16000.14 (series)
(m) Confined Spaces Entry Program Tactics, Techniques, and Procedures (TTP) CGTTP 4-11.8 March 2017
(n) NFPA 306, Standard for the Control of Gas Hazards on Vessels, 2019 edition.
(o) NFPA 350, Guide for Safe Confined Space Entry and Work, 2016 edition

(p) U.S. Coast Guard National Container Inspection Program Manual, COMDTINST M16616.11 (series)

A. Discussion. Confined spaces, as identified by the Occupational Safety and Health Administration (OSHA), are highly variable, requiring thorough investigation and analysis as part of the Confined Space Entry (CSE) Program.

1. Background. Confined spaces, as per reference (a), are defined as a subset of enclosed spaces. CSE is one of the most dangerous work evolutions Coast Guard members and contractors are asked to perform. Working in confined spaces has many hazards and conditions not found in a typical work environment. Coast Guard personnel play the primary role in confined space management to ensure confined spaces are identified, labeled, and managed; and personnel are properly trained.

2. Application. Confined space hazards include atmospheric hazards such as lack of sufficient oxygen to support life; excessive oxygen levels that increase the danger of fire or explosion; presence of flammable or explosive atmospheres; or the presence of toxic gases or materials. The confined space might also include electrical, mechanical, engulfment or entrapment hazards that must be locked out. Chapter 14 of this Manual provides guidance on Isolation of Energy Sources (Lockout/Tag out) requirements.

Many of these hazards are not readily apparent, detectable by odor, or visible, which may result in workers entering confined spaces without consideration of the potential dangers. This Chapter applies to all Coast Guard units that have confined work spaces and provides recommendations for workers entering enclosed spaces.

B. Program Requirements.

1. References. General confined space entry requirements are based on standards and policies contained with References (a) through (p). Reference (i) provides supplemental guidance for Marine Safety personnel. Additional guidance is provided in Reference (m), which is available on the HSWL SC (se) website. Reference (p) provides further guidance on container inspections.

2. Definitions.

a. NFPA Certificated Marine Chemist (CMC). A CMC is an individual who possesses a current and valid Marine Chemist Certificate issued by the National Fire Protection Association (NFPA). A CMC can clear confined spaces aboard cutters, boats, commercial ships, maritime spaces for Maritime Inspectors (MIs) and all shore-side facilities. Note: The Coast Guard requires confined spaces to be cleared at least every 24 hours or sooner if conditions within the confined space change.

b. Confined Space.

(1) Confined spaces are spaces of ANY size or configuration that have limited openings for entry and exit, unfavorable natural ventilation or are not designed for continuous worker occupancy.

(2) For vessels in service, confined spaces include, but are not limited to, boilers, pressure vessels, engine crankcases, compressor rooms, cargo holds and tanks, ballast tanks, double bottoms, double hull spaces, fuel oil tanks, lube oil tanks, sewage tanks, pump rooms, storage lockers, cofferdams, voids, aft peak/forepeak/rake ends, chain lockers, duct keels, crawl spaces, access ways and shipping containers.

c. Confined Space Program Manager (CSPM). The CSPM, in cooperation with supervisors and employees shall manage all facets of the unit's confined space entry program. The CSPM has full authority to make any necessary decision to ensure the program continued success. The CSPM is the only person authorized to amend the unit's confined space program.

d. Designated Competent Person (DCP). A designated competent person is someone who has completed a GFE training or SCP training; with requisite work experience; and is authorized to clear confined spaces for law enforcement operations.

e. Enclosed Space.

(1) Enclosed spaces encompass all spaces not open to the weather decks or to the atmosphere. Enclosed spaces are designed for continuous worker occupancy and allow for routine work without restrictions.

(2) Enclosed spaces might include work spaces, such as engine rooms, berthing spaces, shaft alleys, machinery spaces, recreation spaces, common areas, eating areas, etc.

f. Entry Authority (EA). The EA is a term used to designate a specifically trained and authorized individual to test confined spaces and certify the permit for entry. The EA has primary responsibility for assessing for safe levels of oxygen, flammable gases, vapors and toxic air contaminants in line with Reference (c). Depending on the operational domain, a Gas Free Engineer (GFE), a CMC, a Shipyard Competent Person (SCP) or Entry Supervisors (ES) can perform duties as an Entry Authority.

g. Entry Supervisor (ES). The ES must determine if acceptable entry conditions are present at a permit space where entry is planned authorize entry and oversee entry operations, and terminate entry as required per Reference (c).

h. Gas Free Engineer (GFE). A GFE is an individual qualified per Reference (d); is certified by the Commanding Officer; and manages the administrative and technical aspects of the gas free engineering program. GFEs are typically a Coast Guard military officer or Engineering Petty Officer, E-6 or above, who successfully meet the Navy educational requirements for a GFE, see B.15.e. The terms GFE and GFE Petty Officer are used interchangeably. GFEs are approved to gas free a confined space onboard USCG cutters and law enforcement operations when assigned as the DCP. They may also clear confined spaced spaces aboard vessels while the vessel is underway if work cannot wait for certification by a CMC.

i. Marine Inspector (MI). MIs are limited to authorizing entry into ONLY enclosed spaces. MIs must be very limited in the scope of their authority and have very well defined roles congruent with their level of inspection qualification. MIs have the responsibility of safeguarding themselves or those apprentice MIs under their responsibility. Nothing in this policy should be interpreted to require an individual to take action he or she believes might be hazardous. The MI has the right to refuse to enter a potentially unsafe space. If the MI is not confident a space is safe, he or she must report their concerns to their Officer in Charge, Marine Inspection (OCMI) and not enter the space until all safety requirements are met.

j. Permit Required Confined Space. A Permit-Require Confined Space is a shore confined space term specifically used in Reference (c). In addition to the requirements listed in B.1.b, a permit-required confined space may also exhibit any one of the following requirements:

(1) Contains or has a potential to contain a hazardous atmosphere;

(2) Contains a material that has the potential for engulfing an entrant;

(3) Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or

(4) Contains any other recognized serious safety or health hazard.

k. Shipyard Competent Person (SCP). An individual designated in writing by their unit who has the documented training and knowledge required by Reference (a). In general, a SCP is capable of recognizing and evaluating employee exposure to hazardous substances or to other unsafe conditions and is capable of specifying the necessary protection and precautions to be taken to ensure employee safety. The SCP has the authority to take prompt measures to eliminate hazards at the work site and has the experience to be capable of identifying those hazards. A SCP can clear operations for cold work and limited hot work aboard Coast Guard and commercial vessels (Note: SCP limitations are specified in Reference (a). In addition, the SCP has the ability to maintain a CMC's certificate when the shipyard has a satisfactory shipyard yearly evaluation checklist on file at the Sector. An example of the shipyard yearly checklist can be found at Occupational Safety and Health Administration (OSHA) website, https://www.osha.gov/Publications/OSHA3923.pdf. The SCP can only act in their immediate employer's behalf and cannot clear spaces for other employers' employees. Except for the shipyard, the SCP (Coast Guard or otherwise) cannot certify shore-side confined space using his/her qualifications as SCP without additional qualifications such as: shore-side entry supervisor etc. A non-CG SCP cannot certify confined spaces for CG personnel to enter. Reference (l) provides additional authorities and limitations of SCPs for maintaining shipyard confined spaces in the Marine Inspection domain.

3. General Confined Space Entry Guideline. Active duty and civilian Coast Guard personnel must:

a. Not enter a confined space without having first received documented training on the hazards associated with confined spaces.

b. Not authorize entry (their own or anyone else's) into a confined space without being designated that authority in writing by their Commanding Officer. Designation to authorize entry into a confined space is only granted after an individual has extensive training on the hazards present in confined spaces and the methods of assessing and characterizing those hazards to determine safe entry requirements.

c. Wear a calibrated and daily bump-tested multi-gas meter before entering any confined space including during container inspections.

d. Exit the space immediately if the multi-gas meter alerts during an operation or inspection; and determine reason for the alert (source of exposure).

e. Not re-enter the space until space is considered safe for re-entry. Reference (m) provides guidance for development of Unit confined space entry program; and Reference (p) provides guidance for entry/re-entry procedures during container inspection.

4. Basic Requirements. Minimum requirements for a confined space entry program include but are not limited to:

a. Evaluate and inspect the workplace to determine if any spaces are confined or permit-required confined spaces.

b. Designate a CSPM in writing.

c. Develop and implement a written program that shows the means, procedures and practices necessary for safe entry and working in the space. The written program must be available for review or inspection.

d. Prevent unauthorized entry.

e. Identify and evaluate the hazards of the space, to include atmospheric testing, if necessary. Refer to paragraph B.8.b. for enclosed and confined space assessment requirements.

f. If space is identified as a permit-required confined space, implement additional requirements to include but not limited to:

(1) Inform workers, by posting danger signs or any other equally effective means, of the existence and location of the space(s) and any danger posed by it.

(2) Identify and evaluate the hazards of the space, to include atmospheric testing before entry.

(3) Per Reference (a), the space must be periodically tested to ensure the prevention and accumulation of hazardous atmospheres such as: Oxygen (O_2) deficiency or enrichment; flammable or combustible gases; Hydrogen Sulfide (H_2S); Carbon Monoxide (CO); or other toxic substances that may be present (e. g. benzene, diesel, etc.).

(4) Designate personnel who have active roles (e.g., EA, ES, SCP or individuals who test or monitor the atmosphere) in entry operations, identify their duties, outline their authorizations and provide each employee with the appropriate OSHA compliant training.

(5) Develop and implement procedures for summoning rescue and emergency services to conduct confined space rescues to include:

(a) Designated rescue and emergency services; which shall be evaluated for:

[1]Response time with associated hazard; and

[2] Proficiency with rescue related tasks, atmospheric hazards and necessary equipment for response.

(b) Employee designated Rescue teams to review:

[1] Training and personal protective equipment (PPE) needed to conduct confined space rescues safely.

[2] Training and certification in basic first aid and cardiopulmonary resuscitation (CPR).

[3] Practice making permit space rescues at least once every 12 months, by means of simulated rescue operations.

[4] The rescue drills shall be documented and tracked for verification purposes.

(6) Develop and implement a system for preparation, issuance, use, and cancellation of entry permits.

(7) Develop and implement procedures (e.g., closing off a permit space, canceling the permit, etc.) necessary for concluding the entry after entry operations have been completed.

(8) Review entry operations when there is reason to believe measures taken under the CSE Program are not adequate, such as an accident or a near miss occurrence.

(9) Review the CSE Program using canceled permits within one year after each entry and revise the program as necessary.

5. Shipyard, Ship Building and Shipbreaking. The following testing standards apply for these environments, in line with Reference (a) and informed further by Reference (b):

a. All confined spaces require atmospheric testing and certification by a CMC prior to Coast Guard personnel entry. Although a SCP is able to maintain confined spaces, a SCP cannot clear a confined space for Coast Guard personnel. Refer to Reference (a) to determine conditions when a SCP is permitted to perform Safe for Entry/Safe for Hot Work atmospheric testing of confined spaces.

b. All enclosed spaces must be assessed by the MI or SCP prior to authorizing entry.

6. Space Determination for Vessels Under Construction.

a. During shipbuilding operations, the need for testing by a CMC is based on the progress of vessel construction. Until the potential exists for hazard, testing is not

required. Potential hazards include but are not limited to: oxygen deficiency or enrichment, introduction of flammable materials, and/or toxic materials.

b. New construction spaces are considered enclosed spaces until they meet the definition of confined space in Paragraph B.2.b. or unless a known hazardous condition exists or is introduced necessitating atmospheric testing and certification by a CMC prior to Coast Guard personnel entry.

c. During new construction, the design function (i.e., intended service) of a space does not yet lead to its classification as a confined space as outlined in Paragraph B.2.b.

d. At the point in the new construction process when the vessel is nearing completion and functionality of these spaces begins to be exercised (e.g., fuel tanks are loaded for sea trials), the new construction phase ends and spaces must be reclassified.

e. OSHA recognizes the differences between new construction and in-service vessel CSE requirements and has provided guidance via their on-line Shipyard Employment eTool, which can be found via the following hyperlink: https://www.osha.gov/SLTC/etools/shipyard/index.html.

7. Shore Facilities (including Air Stations). The following definitions apply for these environments per Reference (c):

a. Permit-Required Confined Space. A Permit-Require Confined Space is a shore confined space term specifically used in Reference (c). All permit-required spaces require atmospheric testing and certification by an ES prior to Coast Guard personnel entry. In the case of aircraft fuel cells, the ES can be designated by the Commanding Office as the unit's EA.

b. Non-Permit Confined Space. A confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

8. Inspection of Commercial Vessels. Maritime law enforcement inspections are addressed in Paragraph B.12.

a. Confined Spaces Entry. Coast Guard personnel only enter confined spaces aboard commercial vessels after the space has been certified as "Atmosphere Safe for Workers" by a CMC. If a CMC is not available or feasible, units are permitted to develop local policy designating unit personnel as a SCP for the purpose of authorizing CSE. Local policy must explicitly outline qualification requirements for SCP designation and the types of spaces and vessels that SCPs are authorized to certify. If possible, local policy requirements should include the use of multi-gas meters as specified in B.14.a. to certify spaces as "Atmosphere Safe for Workers." Without local policies in place to address entering confined spaces not cleared by a CMC, Coast Guard personnel are not authorized to enter.

b. Assessment of Enclosed and Confined Spaces. Assessments consist of, but are not limited to: visual inspection of the space(s) to be entered to identify hazards that could affect the atmosphere or pose physical hazards to any entrants; understand how to test for hazardous atmospheres; recognize hazardous atmospheric readings on the multi-gas meters; review of CMC certificates and SCP atmospheric testing logs; discussion with shipyard personnel of work activities conducted in the space(s); and measures installed to eliminate exposure to hazardous conditions, as applicable.

(1) Enclosed Spaces. Coast Guard personnel assessing enclosed spaces must be able to differentiate between confined and enclosed spaces, and have the tools, knowledge and experience to ensure appropriate measures are taken prior to entry of Coast Guard personnel.

(a) A calibrated and daily bump-tested multi-gas meter shall be used by each member of the team entering an enclosed space, capable of testing for atmospheric contaminants per paragraph B.14.

(b) If an enclosed space has the potential to become hazardous by secured ventilation and/or work producing a toxic environment, it shall be considered a confined space and confined space measures shall be followed.

(2) Confined Spaces. After a confined space has been certified safe for entry by a CMC, a calibrated and daily bump-tested multi-gas meter must be used by each CG member entering confined spaces.

(3) Bump testing of each meter after mission completion to verify meter performance is recommended.

(4) Any hazardous meter indication (beyond normal variations, per Reference [m]) must be considered a reason to depart the enclosed or confined space until the cause the variation can be determined.

(5) All requisite training and qualifications outlined in Paragraph B.15 must be acquired prior to receiving designation to assess and authorize entry into confined and enclosed spaces. Officers in Charge, Marine Inspection (OCMI) must evaluate the judgment, character and knowledge of each MI prior to designating MIs with CSE authority. Additionally, a local policy for entering must exist in writing prior to any Coast Guard personnel entering a space not cleared by a CMC.

(6) When assessing a space for entry, adjacent spaces must be considered and evaluated. Toxic and flammable gases can spread through openings from adjacent spaces.

(7) When the Coast Guard MI suspects that conditions exist that would pose or contribute to a hazardous condition, the MI must request that the vessel owner or shipyard project supervisor demonstrate that the enclosed space(s) do not contain actual or potential hazardous conditions. This can be accomplished via

documentation such as atmospheric testing logs and/or by testing the atmosphere in the space utilizing suitable, calibrated equipment in the presence of the Coast Guard MI following the order of testing outlined in Reference (a).When in doubt about the atmosphere, the MI should have space tested by the SCP in their presence.

(8) If it is determined that hazardous conditions exist, the space must be treated as a confined space requiring atmospheric testing and certification by a CMC prior to entry by Coast Guard personnel.

9. Vessel Entry and Repair Dockside. Entry and work in confined or enclosed spaces on cutters or boats at Coast Guard repair facilities must be controlled per Reference (a). These facilities must ensure hot work on cutters and boats is not performed in any confined or enclosed space that contains or has contained flammable liquids, as well as in any immediately adjacent space, until the work area has been tested and certified by a CMC as "Safe for Hot Work." Except for those spaces requiring a CMC Certificate, Coast Guard repair facilities must designate one or more SCP who certifies all confined and enclosed spaces on cutters, boats and buoys as "Atmosphere Safe for Workers" and "Safe for Hot Work," after completing required inspections and testing in accordance with Reference (a).

10. Vessel Afloat Entry and Repair. Hot work, entry and work in confined spaces on Coast Guard cutters and boats underway must be controlled per References (d) and (e). Hot work, entry or work in confined spaces is prohibited until such spaces have been inspected, tested and issued a Gas Free Certificate and Test Log by a certified GFE. In accordance with Reference (d) COs and OICs of Coast Guard cutters must certify or re-certify, their unit's GFE in writing, at least annually.

11. Aircraft Fuel Cell and Tank Entry and Repair. Work on or entry into aircraft fuel tanks must be controlled per References (c) and (f). Work on or entry into fuel tanks is prohibited until the tanks are tested and certified by the ES as safe for personnel and/or hot-work. Commanding Officers of Coast Guard air stations must certify and re-certify, their unit's ES in writing, at least annually.

12. Maritime Law Enforcement Inspections.

    a. Boarding team members must not enter any confined or enclosed spaces that are suspected of hazardous material contamination or oxygen deficiency or enrichment until a Designated Competent Person (CMC, GFE, or SCP) has tested the space and certified it safe to enter. Sector Commanders, COs and OICs of Coast Guard cutters must ensure a Designated Competent Person (DCP) is available to accompany the boarding team.

    b. Assessment of enclosed and/or confined spaces must be conducted prior to entry. Assessments consist of, but are not limited to: visual inspection of the space(s) to be entered to identify hazards that could affect the atmosphere or pose physical hazards to any entrants; understand how to test for hazardous atmospheres; recognize

hazardous atmospheric readings on the multi-gas meters; review of SCP/DCP certificates and atmospheric testing logs; discussion with shipyard personnel of work activities conducted in the space(s); and measures installed to eliminate exposure to hazardous conditions, as applicable.

(1) Enclosed Spaces. Coast Guard personnel such as Law Enforcement Boarding Teams, etc., assessing enclosed spaces must be able to differentiate between confined and enclosed spaces, and have the tools, knowledge and experience to ensure appropriate measures are taken prior to entry of Coast Guard personnel.

(a) Boarding Teams. A calibrated and daily bump-tested multi-gas meter capable of testing for atmospheric contaminants shall be used by each member of the boarding team entering an enclosed space. Paragraph B.14 below provides guidance on multi-gas meter use.

(b) Non-Boarding Teams. If local policy dictates or permits, non-boarding team members performing other types of enclosed space entry, may use the buddy system for meter use.

(c) Hazardous Environment. If an enclosed space has the potential to become hazardous by secured ventilation and/or work producing a toxic environment, it shall be considered a confined space and confined space measures shall be implemented.

(d) Confined Spaces. If confined space entry is required for operational mission, then the confined space must be cleared for entry by a MC or DCP. In addition, a calibrated and daily bump-tested multi-gas meter must be worn by each CG member entering the confined space.

13. Personnel Who Can Authorize Entry Into Confined Spaces. Personnel who authorize entry into confined spaces must be professionally certified and/or designated entry authority by their Commanding Officer; and a unit policy must be in place to address entry into a confined space.

14. Personal Atmospheric Testing, Monitoring, Detection and Meter Use. Personal atmospheric testing/monitoring is required in several Coast Guard operational environments including confined spaces. Additionally, Coast Guard personnel such as boarding team members, pollution response and marine safety inspection teams work in environments where they are likely to encounter hazardous and toxic materials in the atmosphere. The following policies shall apply in the use of personal atmospheric testing and monitoring devices:

a. Testing. A multi-gas meter fitted with the following sensors shall be used: Oxygen (O_2); Lower Explosive Limit (LEL); Hydrogen Sulfide (H_2S); Carbon Monoxide (CO); and Photo-ionization Detector (PID). The meter shall be calibrated in accordance with the manufacturer's instructions; and bump-tested at least daily prior to use in accordance with the manufacturer's instructions. This multi-gas meter must

be used by a qualified EA to test confined space environments whenever there is a possibility of encountering a hazardous or toxic environment/atmosphere.

b. Monitoring and Detection. A multi-gas meter fitted with the following sensors shall be used: Oxygen (O_2); Combustible Gas Indicator (CGI); Hydrogen Sulfide (H_2S); and Carbon Monoxide (CO). The meter shall be calibrated in accordance with the manufacturer's instructions; and bump-tested at least daily prior to use in accordance with the manufacturer's instructions. This personal multi-gas meter must be used to monitor confined space environments whenever there is a possibility of encountering a hazardous or toxic environment. All Coast Guard members entering confined spaces must wear such a multi-gas meter after the space has been certified "Atmosphere Safe for Workers" by CMC. A multi-gas meter with a PID is always recommended; however, the purchase of a multi-gas meter with a PID will be a charge incurred at the unit level.

c. Meter Use. Personal multi-gas meters must be worn on the body part that first breaks the plane of the confined space to capture conditions within the space immediately upon entry. As the member moves through the confined space, the meter should be kept near the breathing zone (shoulders up; i.e., coverall pockets). Do not clip a meter to a belt or back pocket as these locations do not capture conditions close to the breathing Gas meters must be worn on the body part that first breaks the plane of the confined space to capture conditions within the space immediately upon entry. As the member moves through the confined space, the meter should be kept near the breathing zone. Do not clip a meter to a belt or back pocket.

(1) For example, climbing down a ladder would require the personal multi-gas meter to be worn outside the uniform/coveralls on the boot, pausing during the climb down to make sure the meter is able to "sniff" the air along the descent. Do not allow the personal multi-gas meter to be covered up by the leg of the uniform/coveralls as this may potentially interfere with the meter readings.

(2) After climbing off a ladder, the personal multi-gas meter should be immediately moved to a location on the uniform/coveralls close to the breathing zone. It is critical that, if the member is climbing up a ladder, the meter must remain near the breathing zone.

(3) The personal multi-gas meters should never be kept on boots during an entire inspection unless extenuating situations require such a location. The location is too far from the breathing zone to represent the inhalation hazards within the confined space.

d. Multi-gas meters can be damaged and/or impacted by moisture and therefore should be allowed to adjust to local conditions prior to use. The manufacturer's specifications and exact requirements should be consulted.

e. Multi-gas meters must be calibrated according to manufacturers' directions and should also be bump-tested prior to and after each use to verify the meter worked properly during the entire evolution.

(1) Sensors may not bump test properly, or may alarm at random times as the sensor reaches the end of its lifetime; this is especially true with O_2, H_2S and CO. It is critical to have an understanding of the lifetime of each sensor as well as when each sensor was installed. These timelines are based on manufacturers' specifications.

(2) LEL sensors may behave erratically to include reading fluctuations. This may indicate the sensor needs to be replaced, even if the sensor passes a daily bump or calibration test. If a unit has questions on whether their meters are working properly or if an LEL sensor is failing, please contact the manufacturer of your meter immediately for steps to install new LEL sensors for your meters, which may include sending your meter back to the manufacturer for repair. If you have additional questions, contact your District SEHO office.

f. If the space contains internal structures (baffling, transverse framing or longitudinal framing) that could result in the pocketing of gases, a personal multi-gas meter is required for every Coast Guard member entering the space.

g. Any hazardous meter indication (beyond acceptable atmospheric concentrations) must be considered a reason to depart the space until the cause can be determined and space is declared safe for entry. Reference (m) provides additional information regarding normal atmospheric concentrations.

h. Fielding of atmospheric testing devices must be based on operational requirements.

15. Training.

a. All Coast Guard Personnel. All Coast Guard personnel must have an awareness level understanding of confined spaces in order to recognize a confined space and understand the hazards associated with confined spaces. At a minimum, training contents should include: visual inspection of the spaces(s) to be entered to identify hazards that could affect the atmosphere, or pose physical hazards to any entrants; understand how to test for hazardous atmospheres; recognize hazardous atmospheric readings on the multi-gas meters; and review of CMC certificate and SCP atmospheric testing logs.

b. Coast Guard Personnel Engaged in CSE Work. All Coast Guard personnel who are engaged in CSE work must attend and successfully complete required training prior to entering confined spaces. Units requiring CSE of personnel must clearly articulate training requirements for designated entry personnel and/or competent persons, to include annual refresher training.

c. Training Requirements for MI, EA, and ES personnel.

(1) Introductory/Awareness level CSE training (can be an online module.)

(2) Training on the unit's CSE program;

(3) Specific training to recognize and evaluate the hazards for the type of spaces the individual is authorized to certify – shore side confined space training IAW 29 C.F.R. 1910.146 is available through TQC course code #500096.

(4) Hands-on training and use of the multi-gas meter to evaluate spaces; and,

(5) Periodic refresher training at intervals to maintain the person's competency and familiarity with the sampling equipment.

d. Training Requirements for Shipyard Competency Person (SCP) Designation. SCP candidates must complete all of the requirements in paragraph B.15.c above. Additionally, SCP designation also requires completion of the Coast Guard's Shipyard Competent Person 'C' school course (TQC course code #500799) or a comparable SCP training course. Following satisfactory completion of these training requirements, SCP candidates must demonstrate mastery of the elements outlined in the SCP training requirements section of Reference (a), prior to receiving unit designation.

e. Training Requirements for GFE Designation. GFE's must successfully complete either:

(1) U. S. Navy Senior Enlisted Damage Control Assistant Course: Gas Free Engineering Officer curriculum, TQC Course #240140.

(2) U. S. Navy Gas Free Engineer, TQC Course #241665.

f. Coast Guard Training Resources. Both the Shipyard Competent Person and Shore Facility CSE courses are available on the Training Quota Management Center (TQC) website. These courses satisfy the requirements listed in paragraphs B.15.b and B.15.d. above. All CSE entrants are encouraged to take these courses.

16. Further information is available by contacting HSWL SC (se).

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must develop policy and guidance to assist commands in implementing confined space safety programs.

2. Assistant Commandant for Engineering and Logistics (CG-4). Office Chiefs for Aeronautical Engineering and Naval Engineering will ensure afloat confined space entry programs requirements are met when Coast Guard personnel conduct maintenance work onboard Coast Guard assets. They will ensure multi-gas meters with PIDs are available and used by maintenance and damage control personnel.

3. Assistant Commandant for Marine Safety, Security and Stewardship (CG-5) and the Assistant Commandant for Capability (CG-7). Office Chiefs will ensure multi-gas meters are available for boarding teams, pollution response and marine safety inspection teams based on operational requirements. They will also ensure calibration equipment to allow for daily-bump testing of multi-gas meters with the minimum sensor capabilities of Oxygen (O_2), Hydrogen sulfide (H_2S), Carbon Monoxide and LEL are available with safety requirements implemented per manufacturer recommendations, etc.

4. Assistant Commandant for Acquisition (CG-9). Assistant Commandant for Acquisitions (CG-9) must ensure all contracting officers verify entrants into confined spaces meet the items listed in Paragraph C.12.

5. Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC) must:

   a. Support and assist units in the development of CSE programs.

   b. Review unit's written CSE policy during command visits.

   c. Evaluate unit implementation of CSE programs.

   d. Assist units with CSE training.

   e. Safety and Environmental Health Officers (SEHOs) should review CSE training protocols and meter management during safety visits.

   f. Assess unit personnel entering confined spaces for safety and appropriate application of CSE policy.

   g. Upon unit request, conduct industry shipyard competent person evaluations.

6. District Commanders. District Commanders must work with sectors to develop policy establishing the designation criteria and authority of personnel who authorize entry in confined spaces.

7. Sector Commanders. Sector Commanders must:

   a. Develop and implement the sector CSE program. The Confined Spaces Entry Program Tactics, Techniques and Procedures, CGTTP 4-11.8, (Reference m) is located within the HSWL SC website and provides guidance and associated templates to aid in developing a local confined space program. Consult the HSWL SC (se) SEHO for additional assistance.

   b. Appoint in writing, a CSPM to manage and execute the unit's CSE program.

   c. Work with the Officer-in-Charge of Marine Inspections to determine the need for designating unit personnel as MI. In consultation with the district, develop local policy to outline qualification requirements for competent person designation and the

types of spaces and vessels that MI are authorized to certify. Develop local CSE policies prior to any MI entering any confined space if a CMC is not available or cannot clear that space prior to MI entry.

d. Assess sector confined space training needs and the coordination between subordinate units and the Sector Safety Manager (SSM) for safety training.

e. Designate in writing, unit MIs and SCPs as required.

8. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:

a. Develop and implement the unit CSE program The Confined Spaces Entry Program Tactics, Techniques and Procedures, CGTTP 4-11.8, (Reference m) is located within the HSWL SC website and provides guidance and associated templates to aid in developing a local confined space program. Sector units must consult with their SSM for assistance. Consult with the District SEHO for additional assistance or to request a hazard assessment.

b. Appoint a CSPM in writing, to manage and execute the unit's CSE program.

c. Designate in writing, unit MIs, EAs, ESs and SCPs as required.

d. Fully support the unit CSE program, to include providing both human and financial resources.

e. Ensure requirements for multi-gas meters are implemented and available to unit members.

f. Ensure Coast Guard members who use multi-gas meters devices are properly trained.

g. Shore-based units desiring multi-gas meters with PID, shall purchase with unit funds.

9. Safety officers (SO)/Ground Safety Officers (GSO)/Assistant Safety Officers (ASO). Safety Officers/Ground Safety Officers/Assistant Safety Officers must:

a. Assist the command in the development and implementation of the unit's CSE program.

b. Ensure unit personnel received appropriate CSE training to include visual inspection of spaces to be entered to find any hazards that could affect the atmosphere or be physical hazards to any entrants; understand how to test for hazardous atmospheres; recognize hazardous atmospheric readings on the multi-gas meters; and review of SCP atmospheric testing logs.

10. Supervisors. Supervisors must consult the advice of COs/OICs, District SEHOs, or ASOs if there are concerns or questions regarding confined space safety.

11. Employees. Employees must:

    a. Not enter a confined space without having first received documented training on the hazards associated with confined spaces. Training must include visual inspection of the spaces to be entered to be entered to identify hazards that could affect the atmosphere or pose physical hazards to any entrants; understand how to test for hazardous atmospheres; recognize hazardous atmospheric readings on the multi-gas meters; and review of SCP atmospheric testing logs.

    b. Not authorize entry (their own or anyone else's) into a confined space without being designated that authority in writing by their CO.

12. Contractors. Contracts that involve contractors entering and working inside confined space at Coast Guard facilities must adhere to the following requirements:

    a. Contractors must comply with Reference (c) for shore based confined space entries and Reference (a) for shipyard confined space entry. Contractors doing power transmission and distribution work at facilities must comply with Reference (h). Telecommunications contractors must comply with 29 C.F.R. § 1910.268, Telecommunications. These requirements must be included in the contract.

    b. Coast Guard personnel shall not provide any services for contract personnel.

    c. Contractors must provide their own SCP, or use the services of a NFPA Certificated Marine Chemist in accordance with 29 CFR 1915.7 (b) (1) and 29 CFR 1915.7 (b) (2) approved by the NFPA.

    d. Contractors must arrange for confined space rescue of contracted personnel. Coast Guard contracting officers must verify adequate rescue capabilities.

    e. Government CSE personnel must not certify spaces for contractor operations or personnel except where failure to do so would create an extreme emergency and would endanger personnel and property, and may therefore, create even greater liability. Such cases must normally be authorized by the CO and must normally be personally conducted and supervised by the unit CSE manager, except where the nature of the emergency is so extreme that delays created by seeking the CO's approval or the personal services of the CSE manager would create a greater danger. HSWL SC (se) must be notified whenever government CSE personnel certify spaces for contractor operations or personnel.

    f. Where Coast Guard personnel and contractor personnel on a Coast Guard facility are to occupy the same confined space for a given task or operation, the space in question must be tested and certified by the Coast Guard facility confined space GFE, ES or SCP per the requirements of this Chapter and HSWL SC (se) procedures. However, such testing, certification, and subsequent notification cannot relieve the contractor of

any pertinent statutory obligations for the safety and health of contractor personnel, or the requirement to conduct their own testing and certification, and the contractor must be informed.

g. When the contract language specifically allows for the Coast Guard to provide equipment to a contractor, the contractor must test and certify the suitability of that equipment and assume the risk of use thereof. The assumption of risk must be in writing. However, the Coast Guard must never provide multi-gas meters for contractor use.

CHAPTER 14 CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAG-OUT)

References:

(a) 29 C.F.R. § 1910.147, "The control of Hazardous Energy (Lockout/Tag-out)"
(b) 29 C.F.R. § 1915.89, "Control of Hazardous Energy (Lockout/Tags-Plus)"
(c) Equipment Tag-out Procedure, COMDTINST 9077.1 (series)
(d) Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series)
(e) Control of Hazardous Energy – Lockout/Tag-out (LOTO) Shore Tactics, Techniques, and Procedures (TTP); CGTTP 4-07.2

A. Discussion. This Chapter establishes policy and requirements for the isolation of machines, equipment, and pressurized systems from energy sources during servicing or repairs through use of tags, locking devices and additional measures. These procedures, commonly known as Lockout/Tag-out and Lockout/Tags-Plus are designed to prevent serious injury or death from unexpected start-up or sudden release of energy while equipment, machines, or pressurized systems are undergoing servicing or repair. Sources of energy can be electrical, steam, hydraulic, pneumatic, gravity, stretched or compressed springs, chemical and others. Some equipment, machines or systems may use several types of energy sources.

1. Background. Lockout/Tag-Out or Lockout/Tags-Plus procedures are used whenever an employee is required to remove a guard or other safety device, or is required to place any part of his or her body into an area on a piece of equipment where work is performed upon the material being processed (point of operation); or where an associated danger zone of any equipment, machinery or pressurized system exists. General Lockout/Tag-Out program requirements are based on standards and policies contained with References (a) through (d). Additional guidance is provided in Reference (e), available on the HSWL SC (se) website.

2. Application. The requirements of this Chapter apply to all Coast Guard employees and contractor personnel at all Coast Guard facilities and aboard all Coast Guard Afloat units.

   a. Lockout/Tag-Out. Lockout/Tag-out procedures described in Reference (a), apply to all shore units, facilities and shipyards. Lockout/Tag-Out procedures also apply to all vessels and vessel section systems designed with an integrated lock or locking device.

   b. Lockout/Tag-Plus. Lockout/Tags-Plus procedures described in Reference (b) apply to vessels and vessel section equipment not equipped with an integrated lock or locking device. It also applies to vessels in a shipyard or vessels undergoing ship repair (as defined in 29 C.F.R. 1915.4 (j)) when civilian or contract employees are aboard. This would include pier side repairs or repairs to small boats at a station.

   c. Application Guidance. Equipment Tag-Out procedures addressed in reference (c), apply to maintenance performed on Cutters and boats by Coast Guard uniform personnel. When work involves civilian or contract civilian personnel, the provisions of reference (b) apply and must be strictly adhered to. Additional Lockout/Tag-Out

and Lockout/Tags-Plus application and implementation information and guidance are also available through HSWL SC (se) and Reference (c).

B. Program Requirements.

1. Required Use.

a. Lockout/Tag-Out. Lockout/Tag-out procedures must be used to isolate equipment, machines or pressurized systems from energy sources, and used to ensure adequate breathable air.

b. Lockout/Tags-Plus. Lockout/Tags-Plus procedures must be used to isolate vessel and vessel section equipment, machines or pressurized systems from energy sources, or to protect against inadequate breathable air, where vessels are in a shipyard or ship repair environment. Lockout/Tags-Plus is mandatory when civilian or contract personnel are onboard or could be at risk, during ship/boat repair activities. To mitigate risks linked to missing lockout capabilities, Lockout/Tags-Plus procedures employ at least one additional safety measure to protect personnel and equipment. Reference (b) retains the substance of the general industry Lockout/Tag-Out provisions while adding provisions that are more compatible with protecting personnel in shipyard environments.

c. Aviation Units. Lockout/Tag-out procedures described in Reference (a) must be used to isolate all energy sources during maintenance and repair activities of unit infrastructure and other non-aircraft related equipment and systems. Aviation units must complete aircraft system energy isolation steps per approved airframe Maintenance Procedure Cards (MPCs) as specified in Reference (d).

d. Cutters and Boats. The control of hazardous energy where maintenance conducted by Coast Guard military personnel outside of a shipyard/ship repair environments, where no civilians are onboard or at risk shall be managed in accordance with reference (c).

2. Prevention. Incorporating hazardous energy system safety in the early stages of design and throughout the system's lifecycle is important to reducing and eliminating exposure to hazardous energy. Lockout/Tag-Out is a reactive posture to protect workers from exposure to hazardous energy. Maintenance philosophy of equipment and systems should be considered during all phases of the acquisition lifecycle. Exposure to hazardous energy can be eliminated or at least reduced by designing, arranging, and installing equipment, cabling, electrical panels, distribution circuits, pipeline systems and valves, and control systems to achieve safe maintenance and repair operations.

3. Training. Only authorized employees that have received required training are permitted to perform Lockout/Tag-Out or Lockout/Tags-Plus procedures. Units must provide training to Authorizing Officers (AOs), and to authorized and affected employees to ensure they have a thorough understanding of the purpose and function of this program. Each authorized employee must receive training in the recognition of hazardous energy sources present in the workplace, and the methods and means necessary for effective

isolation and control. Refresher training must be provided every year for all authorized and affected employees.

4. Reference. Further information is available by contacting HSWL SC (se).

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must develop policy and guidance to assist commands in implementing lockout/tag-out and tags-plus programs.

2. Commandant, Directorate of Engineering and Logistics (CG-4). Commandant, Directorate of Engineering and Logistics (CG-4) must ensure that maintenance philosophy is considered as early as possible during the design phase of system acquisition and remains a priority during all phases of lifecycle management to eliminate or minimize exposure to hazardous energy during maintenance and repair operations.

3. Chief, Human Systems Integration (HSI) Division (CG-1B3). The Deputy Warranting Officer for HSI must ensure that during the acquisition phase of lifecycle management of systems and equipment that maintenance philosophy is considered in an attempt to eliminate or at least minimize exposure to hazardous energy during maintenance and repair operations.

4. Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC) must assist commands in the development, evaluation and training of lockout/tag-out and/or tags-plus programs. The HSWL SC (se) must review each command's written policy during command visits.

5. Sector Commanders. Sector Commanders must:

   a. Develop and implement a written Sector lockout/tag-out and/or tags-plus program. Consult with the HSWL SC (se) Regional Safety and Environmental Health Office (SEHO) for assistance.

   b. Appoint in writing AOs to manage and execute the unit's lockout/tag-out or tags-plus program per Reference (c).

   c. Ensure the safety of all maintenance personnel and for the protection of the Sector's equipment. They must ensure that personnel who are participating in lockout/tag-out procedures are adequately trained and qualified to do so.

   d. Assist subordinate units with program development and training requirements.

6. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:

   a. Develop and implement a written unit lockout/tag-out and/or tags-plus program. Sector units must consult with their Sector Safety Manager (SSM) for assistance. Consult with the HSWL SC (se) Regional SEHO for additional assistance.

   b. Appoint in writing AOs to manage and execute the unit's lockout/tag-out and/or tags-plus program per Reference (c).

   c. Ensure the safety of all maintenance personnel and for the protection of the unit's equipment. They must ensure that personnel who are participating in lockout/tag-out procedures are adequately trained and qualified to do so.

7. Safety Officers/Ground Safety Officers/Assistant Safety Officers. Safety Officers/Ground Safety Officers/Assistant Safety Officers must:

   a. Assist the command in the development and implementation of the unit's lockout/tag-out and/or tags-plus program.

   b. Ensure that appropriate unit personnel receive energy isolation and electrical safe work practices training.

8. Supervisors. Supervisors must:

   a. Submit to the Facilities or Engineering Department the names of all authorized and affected employees.

   b. Ensure that all employees under their supervision who use lockout/tag-out procedures have received the required training and possess a thorough understanding of the procedures, and possess the knowledge and skills required for the proper use of energy controls.

   c. Conduct a periodic inspection of the energy control procedure at least annually to ensure that the procedure and requirements of References (a), (b) and (c) are being followed.

9. Unit Facilities or Engineering Departments. Unit Facilities or Engineering Departments must:

   a. Maintain a roster of authorized employees and affected employees from names submitted by supervisors.

   b. Ensure that authorized employees are provided with the proper energy isolation devices, including padlocks, multiple lockout devices, chains, wire ropes, wedges, flanges, tag-out tags, and other such devices that are necessary to perform each particular job.

c. Ensure that all AOs, authorized employees and affected employees are trained to ensure they have a thorough understanding of the purpose and function of this program.

d. Meet with representatives of contractors who perform work at their unit which require the lockout or tag-out of equipment, machines or pressurized equipment, to review their procedures and provide an overview of Coast Guard requirements.

e. Ensure that all new equipment, machines and pressurized systems procured or installed are equipped with energy isolating devices that are capable of being locked out.

f. Ensure that whenever major repairs, renovations or modifications of existing equipment, machines or pressurized systems are made, energy isolating device(s) that are capable of being locked out are installed.

g. Develop written procedures for specific types of, or groups of, equipment, machines and pressurized systems within their facilities to control potentially hazardous energy during servicing or repairs. Such procedures describe actions necessary to isolate all sources of energy to prevent unexpected start-up, activation or release of energy during servicing or repairs. Such procedures must be readily available for use by employees and or inspection.

10. Employees. Employees must:

a. Perform no servicing, maintenance, repairs or other work on equipment, machines or pressurized systems unless properly trained and designated an authorized employee.

b. Comply with the lockout/tag-out/tags-plus procedures and other applicable requirements of this Chapter.

c. Be retrained whenever there is a change in their job assignments, a change in machines, equipment or processes that present a new hazard, or when there is a change in the energy control procedures.

11. Contractors. Contractors must:

a. Adhere to the policy and procedures of Reference (b) when a cutter or boat is in maintenance availability at a shipyard. The Engineer Officer/Engineer Petty Officer (EO/EPO) must verify with the shipyard's Lockout/Tags-Plus Coordinator that contractor tags are hung and signed by appropriate personnel. Contractor must retain control of all lockout keys. The contractor tags must be tracked in both the cutter's Tag-Out Log and a contractor log.

b. Manage the lockout/tags-plus procedures per Reference (b) when a cutter or boat is in homeport maintenance availability where work is being performed by non-military personnel or contractors.

c. Provide a Coast Guard AO with a copy of the contractor's Lockout/Tag-out procedures when working on Coast Guard equipment or property.

CHAPTER 15 BLOODBORNE PATHOGENS (BBP) PROGRAM

References

(a) 29 C.F.R. § 1910.1030, "Bloodborne pathogens"
(b) Coast Guard Quarantinable Communicable Disease and Pandemic Policy, COMDTINST M3121.2 (series) (FOUO)
(c) Coast Guard Medical Manual, COMDTINST M6000.1 (series)
(d) Infection Prevention and Control Program for Coast Guard Health Care Facilities and Workers, COMDTINST 6220.4 (series)
(e) USCG Countering WMD Capabilities Manual (CWMD Manual), COMDTINST M3400.51 (series)

A. Discussion.

1. Background. It is Coast Guard policy to protect all employees from the hazards of Bloodborne Pathogens (BBP) through the use of universal precautions, engineering and work practice controls, Personal Protective Equipment (PPE), and good housekeeping. To achieve this objective, the Coast Guard complies with Occupational Safety and Health Administration (OSHA) standards on occupational exposure to BBP per Reference (a).

2. Application. This Chapter applies to all Coast Guard personnel who incur or may incur occupational exposure to blood or other potentially infectious material (OPIM) regardless of frequency. The determination of who is covered under the BBP Program is made by the unit and documented in the unit's Exposure Control Plan (ECP). Reference (b) applies to and provides policy and guidance for workforce health protection for Coast Guard personnel during a communicable disease public health emergency, such as a pandemic or communicable disease requiring quarantine. Reference (c) and (d) provides the policy and guidance for Coast Guard health care workers.

B. Program Requirements.

1. Exposure Control Plan (ECP). This is a written plan to eliminate or minimize occupational exposures to BBP. Units must develop an ECP which at a minimum, must address the following:

   a. Risk. Units must perform a risk assessment identifying workers that may be occupationally exposed to blood and OPIM. The degree of risk and probability of disease transmission are difficult to quantify but are related to the frequency, nature, and magnitude of exposure. Persons who have infrequent exposure to small quantities of blood and/or body fluids are at significantly lower risk or disease transmission compared to persons frequently exposed to large quantities.

   b. At-Risk Personnel. Identify a list of job classifications in which all workers have occupational exposure. In the Coast Guard, at-risk personnel who, as part of their normal work activities, are at increased risk of disease due to BBP exposure are:

(1) Health Services Personnel;

(2) Emergency Medical Technicians (EMT);

(3) Security Personnel; and

(4) Firefighters;

(5) Others to be considered; rescue swimmers, day care workers, gym watch personnel, etc.

c. Job Classifications. Identify a list of job classifications in which some workers have occupational exposure, along with a list of tasks and procedures performed by those workers that result in their exposure.

d. ECP Update. The ECP must be updated annually. Further information is available by contacting HSWL SC (se).

2. Standard Precautions. These are guidelines to reduce the risk of transmission from sources of infections. Units must observe standard precautions to minimize the potential for contact with blood and OPIM. Standard precautions include treating all human blood and OPIM as if known to be infections for blood borne pathogens. Reference (c) provides more information on standard precautions.

3. Engineering Controls. Engineering controls must serve as the first line of defense to prevent, isolate or remove BBP (e.g., biohazard disposal from the workplace).

4. Administrative Controls.

a. Personnel exposed to BBP must be offered the hepatitis B vaccine series.

b. Reference (c) provides information on evaluation and treatment following exposure to BBP.

5. Personal Protective Equipment (PPE). PPE is appropriate for conditions where personnel exposure to infected material is probable. Include the principles of "standard precautions" and immunization of appropriately identified members against hepatitis B. CBRN PPE is preferred during operational response to potential biological or communicable disease threats/weapons.

6. Training. Training must be provided to employees prior to them entering into a job that puts them at risk for exposure to BBP and then annual refresher training thereafter. Training must address all elements as described by the requirements outlined in Reference (a).

7. Reporting. Acute exposures to BBP during the performance of operational duties must be reported per Chapter 3 of this Manual. Additional reporting and exposure surveillance requirements are detailed in Reference (c).

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must establish and promulgate policies and standards to control potential exposure to BBP.

2. Chief, Office of Specialized Capabilities (CG-721). Chief, Office of Specialized Capabilities (CG-721) must provide operational units CBRN response equipment including PPE per reference (e).

3. Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC) must:

   a. Support and assist units in implementing a BBP program.

   b. Develop BBP Tactics, Techniques, and Procedures (TTP) to facilitate applicable units' development of ECP.

   c. Provide assistance, funding, equipment, training and references to Safety and Environmental Health Officers (SEHOs) to provide BBP Program services.

   d. Evaluate and assist units with compliance of this Manual.

4. Sector Commanders. Sector Commanders must:

   a. Maintain a list of all duties that expose personnel to BBP.

   b. Ensure units are supplied with proper protective equipment and required supplies.

   c. Ensure units comply with the requirements of this program.

   d. Develop and implement a written ECP as required by this Chapter. Further information is available by contacting HSWL SC (se). Ensure PPE and other required supplies such as puncture resistant containers, disposable plastic bags, labels, waterless antiseptic soap, household bleach, etc., are readily available to all employees who perform duties that place them at risk for occupational exposure.

   e. Ensure an immediate medical evaluation is made available to any employee exposed to blood or other body fluids.

   f. Develop employee training that is provided at the time of initial employment and at least annually thereafter.

   g. Civilian employees with duties that place them at risk for exposure to blood and other body fluids are required to have the Hepatitis B vaccination within 10 working days

of initial assignment. Per Reference (c), all civilian vaccinations are performed by local civilian sources and payment made by AFC- 08 funds.

h. Maintain training records in the Training Management Tool (TMT).

i. Ensure appropriate medical records are placed in the employee's official medical file as per Reference (c).

5. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:

a. Develop and implement a written ECP as required by this Chapter. Further information is available by contacting HSWL SC (se).

b. Maintain a list of all duties that expose personnel to BBP.

c. Ensure PPE and other required supplies such as puncture resistant containers, disposable plastic bags, labels, waterless antiseptic soap, household bleach, etc., are readily available to all employees who perform duties that place them at risk for occupational exposure.

d. Ensure an immediate medical evaluation is made available to any employee exposed to blood or other body fluids. This may include the use of the Coast Guard Portable Isolation Unit per Reference (e).

e. Civilian employees with duties that place them at risk for exposure to blood and other body fluids are required to have the Hepatitis B vaccination within 10 working days of initial assignment. AFC-08 funds are used to purchase the Hepatitis B vaccination for appropriated funded civilian employees.

f. Maintain training records in the TMT.

g. Ensure appropriate medical records are placed in the employee's official medical file as per Reference (c).

h. Develop employee training that is provided at the time of initial employment and at least annually thereafter.

6. Supervisors. Supervisors must:

a. Ensure that the identity of an individual who has been exposed to an infectious and reportable disease remains confidential. Blood collection and testing and the result, as well as any follow-up medical consultations, are maintained in strict confidence.

b. Investigate the circumstances surrounding an exposure incident. Ensure exposure incidents are documented as a Class D mishap and routed appropriately. Further information is available by contacting HSWL SC (se).

c. Ensure that required information is provided to the attending health care professional.

7. Employees. Coast Guard military, civilian or contract personnel whose official duties place them at risk for occupational exposure to blood or body fluids must carry out duties in full compliance with this Chapter and References (a) through (d).

CHAPTER 16 MOTOR VEHICLE AND RECREATIONAL OFF-DUTY SAFETY PROGRAM

Reference:

(a) 23 U.S.C. § 401, The National Traffic and Highway and Motor Vehicle Safety Act and The Highway Safety Act of 1966
(b) Risk Management (RM), COMDTINST 3500.3 (series)
(c) Motor Vehicle Safety Tactics, Techniques, and Procedures (TTP); CGTTP 4-01.4

A. Discussion. Motor vehicle and Recreational off-duty mishaps are the leading cause of fatalities and serious injuries to Coast Guard members, accounting for an average of 50-75% of all reported mishaps and several fatalities annually. These accidents have a debilitating effect on unit morale and mission performance regardless of whether they occur while on- or off-the-job.

1. Background. Congress enacted Reference (a) to address the serious risk routine motor vehicle operation or use poses to public safety. Not surprisingly, motor vehicle safety affects Coast Guard mission performance and personnel safety. The purpose of federal highway safety laws is to reduce traffic accident related deaths, injuries and property damage by establishing motor vehicle safety programs. Since the inception of these acts, numerous state laws have been enacted to address safety belts, motorcycle helmets, child safety restraints, and many other vehicle related safety measures.

2. Application. This Chapter applies to all units in the Coast Guard. Every unit must establish a motor vehicle and recreational safety program.

B. Program Requirements.

1. Civil Requirements. Military personnel must comply with all local driver-licensing requirements, including Special Purpose Motorized Equipment (SPME) used on public roads, special endorsement requirements (e.g., motorcycles, mopeds), vehicle safety inspections, and registration and insurance requirements. All other Coast Guard personnel must also comply with these requirements when on a military installation or while on official Coast Guard business.

2. Occupant Restraints.

a. All personnel operating or riding in a motor vehicle on any Coast Guard installation must properly use installed occupant restraints (seat belts), in all seats, at all times. Individuals must not ride in seating positions where seat belts have not been installed, have been removed or have been rendered inoperative. Additionally, passengers must not ride in the cargo areas of motor vehicles, except when the vehicle has been modified for such purposes.

b. All Coast Guard personnel (military and civilian) operating or riding in Government Motor Vehicles (GMVs) or Privately Owned Vehicles (POVs) while on official Government business must have their seat belt properly fastened about their body.

c. All Coast Guard military personnel are required to wear seat belts properly fastened about their body at all times while traveling in any motor vehicle that is required to be so equipped.

3. Maximum On-Duty Driving Times. To reduce the potential for traffic mishaps caused by operator fatigue, Commands must identify hazards and reduce risks when assigning long-distance driving duties to personnel who have been on-duty within the previous eight hours. Members must not exceed 14 hours of combined duty-hours and driving hours.

4. Distracted Driving.

a. Cell Phone Use. Vehicle operators on a Coast Guard installation and operators of government owned or authorized vehicles off installation must not use cell phones (to include hands-free devices), unless the vehicle is safely parked.

b. Texting While Driving. Typing or sending text messages or e-mails while driving a government owned vehicle or driving a POV while on official business, or when using electronic communication devices supplied by the government is strictly prohibited

5. Radar Detectors. The use of radar detectors in GMVs is prohibited, regardless of where they are operated. The use of radar detectors is also prohibited in POVs on Coast Guard and DoD installations.

6. Hearing Restriction. The wearing of portable headphones, earphones or other listening devices while operating a motorized vehicle on roads or streets on any Coast Guard installation is prohibited.

7. Impaired Driving.

a. Unsafe driving behaviors, such as aggressive or careless driving, and driving under the influence of alcohol, controlled substances or medications, are prohibited.

b. When driving on any Coast Guard installation, the operator and/or passenger(s) of all motor vehicles (GMV and POV) are prohibited from having open containers of alcoholic beverages in their possession.

c. Personnel operating a GMV are prohibited from having open containers of alcoholic beverages in the vehicle at any time, on or off a Coast Guard installation.

8. Driver Improvement Training. Personnel convicted of serious moving violations (e.g., speeding, reckless driving, driving under the influence, etc.) or who have been involved in a serious traffic accident while operating a GMV, must complete a Driver

Improvement Course. The course is a condition of continued authorized use of a GMV onboard a Coast Guard facility or while on authorized travel.

9. Motorcycles.

a. Requirements. Operators of motorcycles (street legal) must possess a current operator's license with a motorcycle endorsement (where required) issued by the governing civil authorities to operate a motorcycle on public highways. This is also a minimum requirement to operate a motorcycle on Coast Guard and DoD installations. Operators must also meet applicable registration and insurance requirements.

b. Training. All Coast Guard active duty military personnel (and reserve military personnel in a duty status) who operate a motorcycle (street legal) must complete a Motorcycle Safety Foundation (MSF) or similar DoD or state approved motorcycle training course. Coast Guard active duty military personnel who operate a motorcycle (street legal) must obtain this training regardless of whether the motorcycle is operated on- or off-base.

(1) Periodic Refresher Training. Refresher training must be completed every five years. Online training does not satisfy this requirement. Acceptable training is any course that offers both classroom and on motorcycle instruction and provides a certificate of completion.

(a) Reimbursement for refresher training is limited to courses outlined in 9.b of this Chapter.

(b) Coast Guard Motorcycle Safety Foundation Rider Coaches who remain current are exempt from this requirement as they are required to re-certify every two years.

(2) Training Time. Commanding Officers, as mission permits, are authorized and encouraged to allow military members to attend training during normal business hours.

(3) Waiver. In cases where training is not available by location or time, Commanding Officers are authorized to grant a member temporary riding privileges and installation access to operate a motorcycle for up to 90 days while the member acquires training.

(4) Motorcycle Safety Training Reimbursement. Commandant (CG-1132) has implemented a motorcycle safety training reimbursement program for riders who cannot attend free training. Active duty military personnel who pay for training with their own money can request to be reimbursed. Reimbursement is limited to courses outlined in 9.b.

(5) Record Keeping. Commands must maintain a current list of active duty military motorcycle riders and enter individual motorcycle safety training into the Training Management Tool (TMT) under competency code: MOTO-SAFE.

(6) Three-Wheel Motorcycles. Operators of motorcycles with attached sidecars and three-wheeled motorcycles (Can-Am Spyders, Polaris Slingshot, Trikes) are excluded from the motorcycle training requirements of this chapter.

(7) Off-Road Motorcycles. Operators of off-road motorcycles (not street legal) are excluded from the motorcycle training requirements of this chapter.

c. Foreign Ports. Active duty personnel not assigned to a foreign country and who are on liberty in a foreign port are prohibited from riding on or operating motorcycles.

d. Rental of Motorcycles. Military personnel who rent motorcycles in U. S. ports are required to meet training and state licensing requirements and wear Personal Protective Equipment (PPE) outlined in 9.e.

e. Required PPE for Motorcycle (Two, Three-wheeled and Off-road) Operators and Passengers. All motorcycle operators and passengers must wear the following PPE while on a Coast Guard installation. All military personnel operating motorcycles must wear the following equipment at all times and regardless of any lesser restrictions in civil jurisdictions:

(1) A DOT or Snell-approved motorcycle helmet properly fastened under the chin. "Novelty" or non-approved helmets are prohibited.

(2) Properly worn eye protection devices.

(3) Foot protection includes sturdy over the ankle footwear that affords protection for feet and ankles (durable leather athletic shoes that cover the ankles are permitted).

(4) Full-fingered and fingerless gloves or mittens designed for use on motorcycles.

(5) Long-sleeve shirt or motorcycle jacket and pants appropriate for motorcycle riding.

(6) For off-road riding, additional PPE that is appropriate for the sport or activity, including padding and guarding should be considered.

f. Restrictions. This policy must not limit Commanding Officers in establishing more stringent local policies where needed due to local road and traffic conditions, climate or individual behaviors or mishap trends. However, Commanding Officers must not restrict member's access to installations if the member is in compliance with the training and PPE requirements.

10. Two-Wheeled Vehicles 49CC and Below.

a. Training/PPE Requirements. Motorcycle training does not apply to these specific vehicles; however, PPE requirements do apply. Military members must comply with PPE requirements at all times whether on or off Coast Guard installations and

regardless of any less restrictive requirements in civil jurisdictions. Coast Guard civilian employees, contractors, dependents and visitors must comply with the PPE requirements while on Coast Guard installations.

b. Use on Coast Guard installations. Installation Commanding Officers, at the command's discretion, can allow operation of these vehicles on Coast Guard installations. However, if authorized, Commanding Officers must include in their traffic safety plan authorized areas for these vehicles to operate.

c. Passengers. Passengers are prohibited.

d. Foreign Ports. Active-duty personnel not assigned in a foreign country and are on liberty in a foreign port are prohibited from riding on or operating two-wheeled motorized vehicles 49cc and below.

e. Rentals. Military personnel who rent two-wheeled motorized vehicles in U. S. ports are required to wear PPE.

11. All-Terrain Vehicles (ATV).

a. All Coast Guard personnel who operate ATVs on official business onboard any Coast Guard installation must successfully complete a Specialty Vehicle Institute of America (SVIA) ATV safety course.

b. All military and civilian ATV operators of government owned ATVs are required to wear the same PPE as motorcycle operators.

c. Foreign Ports. Active duty personnel not assigned to a foreign country and who are on liberty in a foreign port are prohibited from riding on or operating ATV's.

12. Snowmobiles. All Coast Guard personnel who operate snowmobiles on official business or onboard any Coast Guard facility (regardless of purpose or duty status) must successfully complete a snowmobile safety course.

13. Low Speed Utility Vehicles.

a. All Coast Guard personnel who operate motorized equipment, such as golf carts and utility vehicles must receive a safety briefing that includes handling characteristics, number of authorized passengers, load capacity, authorized operating areas, use of seatbelts, etc.

b. Utility vehicles shall not be operated on public roadways unless authorized by the state and/or local authorities where the installation is located. Where utility vehicles are authorized on public roadways, commands shall comply with state and local requirements. Additionally, these vehicles shall have non-fragmenting safety glass windshields, seatbelts for the driver and each passenger, headlights, taillights, and turn signals.

14. Travel Risk Planning System (TRiPS). Military members in a permanent change of station status who are traveling more than 400 miles in their POV must complete a TRiPS assessment and have their supervisor review and approve the assessment prior to detaching from their command. Access to TRiPS is available to all personnel at https://trips.safety.army.mil.

15. Pedestrian Safety.

    a. Commands must stress pedestrian safety as part of the overall unit motor vehicle safety program, to include separating pedestrian and motor vehicle traffic to the maximum extent possible. Provisions must be made for adequate numbers of sidewalks, handicapped access ramps, jogging routes, pedestrian crossings and bicycle paths to ensure maximum safe traffic flow without jeopardizing pedestrian safety.

    b. Personnel must use additional caution when bicycling, jogging, running, walking, using smart phones/texting, skating, skateboarding, using roller blades, riding scooters, or participating in other recreational activities on main roads and streets of Coast Guard facilities during peak traffic periods and high-density traffic times. Commands must designate which roadways and times apply for these types of "pedestrian" activities.

    c. Strong emphasis must be placed on the protection of children walking to and from school, entering and leaving school buses and playing in Coast Guard Housing areas.

    d. Applicable fluorescent or reflective PPE must be provided and used by all Coast Guard personnel who are exposed to traffic hazards as part of their assigned duties.

16. Bicycle Safety. Bicycle/Tricycle safety must be emphasized in the overall traffic safety program.

    a. Head Protection. All personnel, including dependents, that operate a bicycle/tricycle onboard a Coast Guard facility, must wear an approved bicycle helmet properly fastened under the chin. Coast Guard military personnel who operate a bicycle/tricycle off facility must wear an approved helmet.

    b. Industrial Use Bicycles/Tricycles. After risk analysis, commands are authorized to waive helmet requirements for bicycles used as transportation in industrial areas where hard hats are required. In lieu of helmets, a hard hat must be worn. Additional waivers can be granted for these vehicles being used for operational duties in areas where factors such as maximum speed and vehicular traffic congestion do not exist (i.e., Coast Guard Air Stations).

17. Awareness, Educational and Promotional Campaigns.

    a. Commands must conduct awareness and promotional campaigns as part of an overall motor vehicle safety program.

b. Commands must provide motor vehicle safety briefs to all Coast Guard personnel prior to holidays, extended weekends, liberty periods, when visiting foreign ports or when returning from deployments.

c. Commands must provide a locality briefing to newly transferred members addressing local motor vehicle and off-duty/recreational safety issues.

C. Responsibilities.

1. Director, Health, Safety, and Work-Life (CG-11). Director, Health, Safety and Work-Life (CG-11) must provide an effective motor vehicle and recreational safety program for on- and off-duty personnel. This policy promotes traffic and recreational safety to reduce deaths, injuries and property damage.

2. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must determine motor vehicle and recreational safety program policies and objectives and prepare and publish directives to ensure proper implementation of the motor vehicle and recreational safety programs, including high risk activities. Duties include:

   a. Promote safety by issuing periodic ALCOAST messages reflecting Coast Guard motor vehicle and recreational statistics and recommended safety measures.

   b. Serve as the repository for Coast Guard reportable motor vehicle and recreational mishap reports and provide motor vehicle and recreational safety statistics, trend analysis and recommendations to improve the overall Coast Guard Motor Vehicle and Recreational Safety Program.

   c. Participate in DoD, National Highway Traffic Safety Administration (NHTSA) and private safety organization working groups and seminars to gain insight for new techniques for reducing motor vehicle and recreational mishaps.

3. Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC) coordinates with Commandant (CG-113) and unit commands to implement policy and facilitate management of motor vehicle and recreational safety programs. HSWL SC (se) duties include:

   a. Assist units in the development, evaluation and delivery of motor vehicle and recreational safety training.

   b. Review each command's written motor vehicle and recreational safety policy during command visits.

4. Commanders, Commanding Officers/Officers-In-Charge (COs/OICs). Commanders, Commanding Officers/Officers-in-Charge (COs/OICs) must:

a. Establish a written motor vehicle and recreational safety program and assign responsibilities for developing, issuing, implementing and enforcing program regulations.

b. Designate a Motor Vehicle Safety Coordinator (MVSC) in writing.

c. Investigate and report all motor vehicle and recreational mishaps per Chapter 3 of this Manual. Every effort should be made to work with law enforcement, safety and medical treatment facilities to ensure completeness of the Mishap Analysis Report (MAR).

d. Ensure supervisors at all levels incorporate the principles of Risk Management (RM) into their motor vehicle operations. Chapter 4 of this Manual and Reference (b) detail the Coast Guard principles of RM and how it can be applied to enhance motor vehicle safety.

e. Emphasize to their personnel the hazards associated with drinking and driving, speeding, driving while fatigued, failure to use occupant protection devices, and engaging in other NHTSA identified driving distractions.

f. Emphasize the risks of long distance driving and other risks associated with driving during liberty periods.

g. Emphasize the requirement for motorcycle/moped riders to wear a Department of Transportation (DOT), Snell Memorial Foundation or host nation approved motorcycle helmet and other appropriate motorcycle protective clothing and equipment.

h. Ensure that personnel convicted of serious moving violations (e.g., speeding, reckless driving, driving under the influence) or who have been involved in a serious traffic accident while operating a Government motor vehicle, complete a Driver Improvement Course. Completion of the course is a condition of continued authorized use of a Government motor vehicle.

i. For military personnel, ensure supervisors counsel subordinates on proposed travel plans, mode of travel, length of travel time and other contingencies prior to personnel leave approval.

j. Ensure a local motor vehicle safety orientation is included in scheduled command check-in briefings provided to all new personnel reporting for duty within two weeks of arrival.

k. Ensure motor vehicle and recreational safety briefs are provided to all personnel prior to major holidays, extended weekends or liberty periods.

l. Ensure motor vehicle and recreational safety briefs are provided to all personnel when visiting foreign ports, returning from deployment, or when mishap trends warrant.

m. Enforce all PPE requirements for motorcycles and other vehicles.

n. Identify all Coast Guard military personnel who own or plan to purchase a motorcycle, and ensure 100 percent compliance with the training and PPE requirements for those personnel.

o. Promote use of risk management practices (i.e. identify, assess, and mitigate hazards), proper training and certification for members who engage in high-risk recreational activities while off duty. Examples of high risk activities include: skydiving; rock and mountain climbing; cliff diving; self-contained underwater breathing apparatus (scuba) diving; racing motorized vehicles, etc. This list is not all-inclusive.

p. Emphasize the risks associated with recreational boating, boating under the influence, the environmental stressors, completing a safe boating course, and to stress voluntary lifejacket wear.

5. Safety Officers. These individuals, designated in writing by the unit commander and assisted by the MVSC, are charged with implementing the command motor vehicle and recreational safety program.

6. Unit Motor Vehicle Safety Coordinator (MVSC). The duties of the MVSC must automatically be assigned to the Assistant Safety Officer (ASO) unless otherwise directed by the Commanding Officer. MVSC must:

   a. Coordinate and oversee all motor vehicle safety training program requirements.

   b. Provide local motor vehicle safety briefings and coordinate with HSWL SC (se) and Headquarters Motor Vehicle Safety Program Managers to keep up-to-date statistics. Additionally, the MVSC should attend traffic safety courses, conferences, workshops, and seminars to remain current on traffic safety issues.

   c. Identify and maintain a roster of all military members who own or ride motorcycles.

   d. Foster a mentoring program within the command's motorcycle community to help promote rider safety awareness and communicate a sense of rider accountability.

7. Supervisors. Supervisors must:

   a. Actively participate in the leadership and mentorship of junior Coast Guard members with regard to safe driving, safe recreational activity behaviors and command motor vehicle safety programs.

   b. Ensure all employees under their supervision are trained and aware of the requirements of this Chapter.

   c. Enforce seat belt policies for employees when operating a GMV or POV when on government business.

d. Enforce policies regarding the prohibition of text messaging while driving a GMV, while driving a POV while on government business, or when using electronic communication devices supplied by the government while driving.

e. Integrate the RM principles in Chapter 4 of this Manual into all GMV related-duties and encourage individuals to apply RM to all off-duty motor vehicle and recreational activities.

8. Employees. Employees must:

a. Comply with Coast Guard policy, the guidance provided in this Chapter, host facility policy, local, state, national, and host national motor vehicle safety laws.

b. Inform their chain of command when active duty Coast Guard members desire to engage in high-risk recreational activities.

c. All active duty Coast Guard members are required to perform risk management assessments per Reference (b) prior to engaging in the high risk recreational activity.

CHAPTER 17 ERGONOMIC PROGRAM

References:

(a) 29 C.F.R. § 1910, "Occupational Safety and Health Standards"
(b) Coast Guard Civil Rights Manual, COMDTINST M5350.4 (series)
(c) Ergonomics Program Tactics, Techniques, and Procedures (TTP); CGTTP 4-02.4

A. Discussion. This Chapter provides policy and guidance on ergonomics principles and practices to prevent and minimize Musculoskeletal Disorders (MSD). MSDs are known more specifically as Work-related Musculoskeletal Disorder (WMSD), Repetitive Strain Injuries (RSI); Cumulative Trauma Disorders (CTDs) and Overuse Syndrome (OS). Ergonomics is the science of fitting workplace conditions and task demands to the human operator. The Ergonomics Program seeks to design and adapt the workplace, job, tasks, tools, equipment and environment to improve the comfort, efficiency and well-being of workers. A proper human-centered workplace design improves productivity; reduces illness and injury risks, and increases job satisfaction and performance.

1. Background. The most common injuries associated with poor ergonomics are MSDs that result from exposure to certain work environments like heavy weather or surf operations, or performing specific tasks like typing. Work-related MSDs account for one-third of all occupational injuries and illnesses reported to the Bureau of Labor Statistics (BLS). MSDs represent the largest work-related injury and illness problem in the United States today. MSDs can be prevented and mitigated by applying ergonomics principles to identify, evaluate, and control risk factors in the workplace. MSDs result from repeated stress to the body that produce a variety of illnesses and injuries of the muscles, tendons, ligaments, nerves, joints, cartilage, bones, and blood vessels. Prolonged exposure to these workplace stressors can lead to permanent damage and disability. The signs and symptoms of MSDs vary according to the type of injury or illness, but typically include: pain that does not cease overnight, numbness and tingling, and decreased joint motion, mobility and strength.

2. Application. Reference (a) requires all employers to provide a workplace that is free from recognized hazards which can cause or are likely to cause death or serious physical harm. Reference (b) cites Executive Order 13164 that directs all federal agencies to establish procedures to facilitate the provision of reasonable accommodations to employees with disabilities. Units must comply with Reference (b) when informed of an employee or applicant's request for a reasonable accommodation. Reference (c) Provides guidance for development of unit/sector ergonomics program.

B. Program Requirements. The success of ergonomics programs requires commitment from Program Managers (PMs) and the unit command to support worker and staff efforts to identify and control MSD risk factors and reduce associated injury. Two program requirements are necessary to prevent MSDs, control costs related to these injuries, and improve overall mission readiness. The first program requirement is to educate and train personnel to recognize ergonomic risk factors in the workplace. The second program requirement is to incorporate ergonomic risk factors into existing workplace and unit safety and occupational health assessments.

1. MSD Risk Factors. The most common MSD risk factors are:

   a. Force. The amount of physical effort required to maintain control of equipment or tools or perform a task such as heavy lifting, pushing, pulling, grasping, or carrying

   b. Repetition. Performing the same motion or series of motions continually or frequently for an extended period of time with little variation. Examples include prolonged typing, assembling components and repetitive hand tool usage.

   c. Awkward or static postures. Awkward postures refer to exposing the body (limbs, joints, back) to positions that deviate significantly from the neutral position. For example, extended reaching, twisting, and squatting or kneeling. Static postures refer to holding a fixed position or posture for prolonged periods of time. Examples include gripping tools that cannot be set down or standing in one place.

   d. Vibration (localized and whole-body). Localized vibration occurs when a specific part of the body (e.g., hand, arm, etc.) comes in contact with vibrating objects such as powered hand tools (e.g., chain saw, electric drill, chipping hammer, grinders, or reciprocating saws) or equipment (e.g., wood planer, punch press, packaging machine). Whole-body vibration occurs when standing or sitting in vibrating environments (e.g., operating a pile driver or driving a truck over bumpy roads) or when using heavy vibrating equipment that requires whole-body involvement (e.g., jackhammers).

   e. Contact stress. Results from occasional, repeated or continuous contact between sensitive body tissues and a hard or sharp object. Examples include, resting the wrist on a hard desk edge, tool handles that press into the palms, or using the hand as a hammer.

2. MSD Indications. While MSDs generally develop gradually over time as a result of exposure to the work environment, not all workers experience a MSD when exposed to these risk factors. The following may indicate the presence of ergonomics-related problems that can result in MSDs:

   a. Pain. Complaints of numbness, tingling, pain, restriction of joint movement, or soft tissue swelling.

b. Physical. Shaking arms and hands or rolling shoulders due to discomfort.

c. Adaptations. Modifications to workstations and equipment.

d. Protective Systems. Presence of ergonomic products in the workplace (e.g., wrist braces).

3. Education and Training. The education and training requirement are tailored to three specific categories, including Coast Guard Employees, At Risk Employees, and Supervisors.

a. Coast Guard Employees. General ergonomics awareness training must be provided to all employees as applicable to the employee's role in the workplace. At a minimum this training must include:

(1) Definition of Ergonomics.

(2) Risk factors for MSDs.

(3) Contributing factors to MSDs.

(4) Controls for MSD risk factors.

b. At Risk Employees. Workers with prolonged exposure to workplace stressors as described in Section A of this Chapter are at risk of developing MSDs. Workers benefit from orientation and hands-on training received prior to starting tasks with potential ergonomic risk factors. Employees should be notified of workplace changes, instructed on using new equipment, and notified of new work procedures. Additional topics include:

(1) Proper use of equipment, tools, and machine controls.

(2) Good work practices, including proper lifting techniques.

(3) Awareness of work tasks that might lead to pain or injury.

(4) Recognizing early signs and symptoms of MSDs.

(5) Addressing early signs and symptoms of MSDs before serious injury develops.

(6) Procedures for reporting work-related injuries and illnesses.

c. Supervisors. Supervisors with employees who are identified with ergonomic risk factors must receive the following training:

(1) Recognizing early signs and symptoms of MSDs.

(2) Reporting MSDs.

(3) Identifying safe and unsafe ergonomic behaviors of employees.

4. Incorporation into Health Assessments. For the assessment requirement, ergonomic risk factors must be integrated into existing workplace and unit safety and occupational health assessment programs. Units must monitor for signs and symptoms of MSDs and implement abatement action as necessary. Ergonomics is a multidisciplinary science encompassing medical, engineering, industrial hygiene, and safety fields. It is recognized that while unit personnel should have little difficulty identifying the MSD risk factors, they might not have the experience necessary to identify, analyze and resolve all ergonomic situations. When the unit safety staff identifies ergonomic issues beyond the scope of their expertise, commands should seek assistance from HSWL SC (se) to conduct the appropriate analysis of MSD exposure.

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must establish policy for ergonomics to:

   a. Identify the tools needed to administer an effective ergonomics program.

   b. Explore new and innovative technologies, tools, and training modes to ensure the most effective and state-of-the-art program to address workplace ergonomic risk.

   2. Chief, Human Systems Integration (HSI) Division (CG-1B3). The Deputy Warranting Officer for HSI must ensure that applicable Technical Warrant Holders apply proper requirements and standards to the design and development of new systems, assets, and platforms to minimize ergonomic issues.

3. Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC). Commanding Officer, Health Safety Work-Life Service Center must support and assist units in implementing an ergonomics program including the following:

   a. Provide guidance and assistance to unit commands to develop and implement ergonomics programs.

   b. Review unit annual assessments, as well as, analyze injury and illness records and other pertinent information to determine the need for ergonomic improvements and corrective actions.

   c. Coordinate program implementation among similar activity types; disseminate information on process improvements to eliminate duplication of effort.

   d. Maintain a website of resources to increase awareness of ergonomic hazards, identify and control common ergonomic risk factors and processes; implement and maintain an effective ergonomics program.

   e. Provide training on ergonomics.

4. Commanders, Commanding Officers/Officers-in-Charge (COs/OICs). Commanders, Commanding Officers/Officers-in-Charge (COs/OICs) must:

   a. Educate personnel to recognize ergonomic risk factors and MSD symptoms, and ensure reporting of mishaps and symptoms of injuries.

   b. Integrate ergonomic assessments into workplace and unit safety and occupational health inspection activities. Review all workspaces for the presence of MSD risk factors.

   c. Use safety and health committees to review and analyze MSD problem areas and recommend corrective actions.

   d. Consider ergonomic risk factors when designing new facilities or modifying processes, jobs, tasks, materials, equipment or facilities. The design phase provides the most cost effective and efficient opportunity to eliminate or reduce ergonomic risk factors.

5. Supervisors. Supervisors must:

   a. Recognize the early signs and symptoms of MSDs.

   b. Report work processes which frequently result in MSDs injury.

   c. Ensure employees use safe ergonomic behaviors.

6. Employees. Employees must:

   a. Use equipment, tools, and machine controls properly to minimize impact.

   b. Use good work practices, including proper lifting techniques.

   c. Be aware of work tasks that could lead to pain or injury.

   d. Recognize early signs and symptoms of MSDs.

   e. Address early signs and symptoms of MSDs before serious injury develops.

   f. Report work-related injuries and illnesses.

CHAPTER 18 SHORE FIRE PROTECTION PROGRAM

References:

(a) Naval Engineering Manual, COMDTINST M9000.6 (series)
(b) Marine Safety Manual, Volume VI, Ports and Waterways Activities, COMDTINST M16000.11 (series)
(c) U. S. Coast Guard Addendum to the United States National Search and Rescue Supplement (NSS) to the International Aeronautical and Maritime Search and Rescue (IAMSAR), COMDTINST M16130.2 (series)
(d) Civil Engineering Manual, COMDTINST M11000.11 (series)
(e) Code of Federal Regulations, 29 C.F.R. § 1915, Subpart P, "Fire Protection in Shipyard Employment"
(f) Code of Federal Regulations, 29 C.F.R. § 1910.146, "Permit-Required Confined Spaces"
(g) Life Safety Code, NFPA 101®
(h) Fire Code, NFPA 1®
(i) Liquefied Petroleum Gas Code, NFPA® 58
(j) National Fire Alarm and Signaling Code, NFPA 72®
(k) Management Guide for Refrigerants, Coolants and Fire Suppressants, COMDTPUB P6280.3
(l) Standard for the Installation of Standpipe and Hose Systems, NFPA® 14
(m) Standard for Portable Fire Extinguishers, NFPA® 10
(n) Standard for Airport Fire Fighter Professional Qualifications, NFPA® 1003
(o) DoD Fire and Emergency Services (F&ES) Program, DODI 6055.06 (series)
(p) Standard on Facility Fire Brigades, NFPA® 600
(q) Code of Federal Regulations, 29 C.F.R. § 1910.156, "Fire Brigades"
(r) Emergency Medical Services Manual, COMDTINST M16135.4 (series)
(s) Standard on Fire Department Occupational Safety, Health, and Wellness Program, NFPA® 1500™
(t) Standard on Health-Related Fitness Programs for Fire Department Members, NFPA® 1583
(u) Standard on Comprehensive Occupational Medical Program for Fire Departments, NFPA® 1582
(v) Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments, NFPA® 1710
(w) Code of Federal Regulations, 29 C.F.R. § 1960, "Basic Program Elements For Federal Employee Occupational Safety and Health Programs And Related Matters"
(x) Standard on Live Fire Training Evolutions, NFPA® 1403
(y) Standard for Automotive Fire Apparatus, NFPA® 1901
(z) Standard for Aircraft Rescue and Fire-Fighting Vehicles, NFPA® 414
(aa) Motor Vehicle Manual, COMDTINST M11240.9 (series)

A. Discussion.

1. Background. The Coast Guard actively strives for an environment safe from fire. Coast Guard personnel and employees do not actively engage in structural firefighting, with the

exceptions of: trained individuals whose primary duty is firefighting; to save a life; or to extinguish incipient stage fires that can be extinguished using a single portable fire extinguisher. The purpose of this policy is to enhance mission readiness by protecting Coast Guard personnel and property from fire loss.

2. Application. This Chapter covers the safety program requirements for fire safety and prevention. It applies to all Coast Guard personnel when not aboard vessels or aircraft and to government owned, used or leased property ashore located on or off government property. Where multiple Coast Guard units are collocated, the host command must assume responsibility for a facility wide fire prevention program.

3. Limitations. This Manual does not apply to internal fire protection requirements aboard Coast Guard vessels or activities performed under the purview of Captains of the Port. Guidance for fighting fires aboard Coast Guard cutters and Coast Guard boats is contained in Reference (a). Guidance for fighting fires aboard non-Coast Guard vessels is contained in Reference (b) and (c).

B. Program Requirements.

1. National Fire Codes. The National Fire Codes published by the National Fire Protection Association (NFPA) are consensus standards that are widely accepted as best management practices for safety of personnel and protection of property. Compliance with applicable NFPA standards is required wherever practicable.

   a. In the case of structures, systems, facilities, vehicles, and equipment, the standard in effect at the time of purchase, manufacture, construction or major renovation is the applicable version, unless otherwise noted. Per Reference (d), major renovations includes maintenance beyond the organic capability and authority of the field unit including real property asset modifications that require higher technical skills, all modifications affecting the structural integrity of facilities (removing load bearing walls, increasing storage capacity beyond load rating, etc.), and all modifications affecting code compliance.

   b. In the event of a conflict between NFPA standards, laws, federal regulations, and published Coast Guard standards and regulations the most stringent applicable standard/code should take precedence wherever practicable. In these situations, units should evaluate their local hazard exposure and apply the standard that best mitigates the risk

2. Fire Prevention Program. All units must develop and implement a fire prevention program appropriate for the fire risks identified at the unit. Implementation of the program must be performed by the responsible Coast Guard fire department, Assistant Safety Officer or a designated unit Fire Marshal and must include fire safety practices, procedures and periodic fire drills.

3. Facility Emergency Action Plan (FEAP). Each unit shall develop and implement a FEAP per reference (e) that includes a fire action plan. The FEAP shall provide essential immediate information for responding to emergencies, including fire, medical, severe weather, flooding,

and loss of utilities, bomb threats, chemical and any other reasonably possible emergency. All personnel shall be familiar with the contents of the FEAP.

4. Fire Evacuation Diagram. Each unit must post a fire evacuation route diagram at all strategic locations (exit corridors, stairwells, and berthing area/rooms if applicable). Evacuation diagrams shall contain the following:

   a. Telephone numbers and procedures for reporting a fire.

   b. Address and/or building number of the structure in which posted.

   c. Floor plan depicting two evacuation routes and the locations of nearest telephone, manual fire alarm pull stations, fire extinguishers and first aid equipment,

5. Notification of fire. The following actions shall be taken upon discovering a fire:

   a. Individuals discovering a fire shall initiate the alarm, warn the building occupants, evacuate the facility, notify the operations center, fire department and appropriate agency and guide emergency responders to the scene of the fire.

   b. All fires shall be reported, regardless of the size or nature, including those that have been extinguished. Fire incidents shall be entered into the Coast Guard e-mishap system.

   c. Once the facility has been evacuated, no person shall reenter the facility until approval has been given by the Fire Department Official in Charge.

6. Fire Inspections. All shore facilities shall conduct fire safety inspections to identify fire hazards and initiate measures to reduce fire risks. Units shall determine the frequency of fire inspections, specifically addressing high hazard areas as follows:

   a. Annual Fire Safety Inspection and Prevention Program. All shore units shall develop and implement an annual fire inspection and prevention program. The program shall be performed as part of the annual unit safety inspection using the Unit Safety Assessment Tool (USAT).

   b. Routine Unit Fire Inspections. The following fire prevention inspections shall be conducted and documented by the Fire Prevention Officer, Fire Warden, Building Manager, Assistant Safety Officer or other designated qualified unit personnel.

      (1) Weekly. Visual inspections shall be conducted in hazardous occupancies or areas where the fire loading or routine activities present a high risk to life, safety, or severe fire potential. These include industrial areas, refueling areas, aircraft maintenance facilities, ship overhaul facilities, and major construction and renovation projects.

      (2) Monthly. Monthly inspections shall be conducted in: barracks; dormitories; maintenance, transportation and recreation areas; ship building, breaking and

repair facilities; ordnance and flammable gases and liquids storage; welding; health care facilities; dependent schools; child daycare centers; automated data processing and communication equipment facilities; and commissaries.

(3) Quarterly. Quarterly inspections shall be conducted of common areas including multi-family housing, administration, adult schools, and all other structures, including mobile facilities that are not inspected weekly or monthly, except buildings containing low hazard contents and single family housing.

(4) Annually. Annual inspections shall be conducted in low hazard buildings and single family housing (including privately owned and government owned mobile homes on Coast Guard property).

7. General Fire Safety and Housekeeping. General fire safety and good housekeeping conditions must be maintained at all times. Each unit shall follow general fire safety and housekeeping practices to reduce the potential for fires and life safety hazards. Fire safety and housekeeping practices shall include, but are not limited to, the following (also see references (h) and (i)):

a. Fire Exits shall be kept accessible properly identified and illuminated at all times.

b. All sources of ignition shall be prohibited in areas where flammable and combustible liquids are stored, handled and/or processed. Appropriate "NO SMOKING, MATCHES, or OPEN FLAME" signs shall be posted in all such areas as required.

c. Flammable and combustible liquids shall not be used in areas where open flames or heating devices are present and shall be properly stored in approved lockers at the end of the workday. Flammable and combustible liquids shall not be stored in areas used for exits, stairways or safe passage of people.

d. A good housekeeping program that provides for the prompt removal and disposal of accumulations of combustible scrap and debris shall be implemented at the unit. To prevent spontaneous combustion fires, self-closing metal safety containers shall be used to collect waste saturated with flammable or combustible liquids or soiled shop rags. Trash receptacles located in shop or industrial areas shall be emptied when they are full or near full to avoid over-accumulation or spillage of combustible materials. Containers accumulating waste saturated with flammable or combustible liquids shall be emptied at the end of each workday in accordance with applicable hazardous waste management regulations.

e. The burning of candles or incense within berthing rooms and in Coast Guard facilities is prohibited.

f. Fire-rated doors located in a means of egress shall not be blocked in the open position. Release mechanisms for these doors shall be tested during building fire detection system tests.

g. Fire sprinkler heads shall not be painted or obstructed. Materials shall not be stored within 18 inches of a sprinkler head or within 36 inches in hazardous material storage areas. No materials shall be hung from sprinkler heads.

h. Electrical disconnect cabinets shall be properly labeled as to the circuits controlled. The working space in front of electrical equipment may not be fewer than 36 inches and shall not be used for storage.

i. Portable fire extinguishers and fire alarm pull stations shall be identified as to their location and have unobstructed visibility.

j. Measures shall be taken to control the growth of tall grass, brush and weeds adjacent to facilities. A break between facilities and such growth of at least three feet (0.9 meters) shall be maintained around all facilities.

k. Storage, handling, installation and use of liquefied petroleum (LP)-gases shall be in accordance with reference (j).

8. Smoking Areas. Smoking areas shall be designated in writing by the Commanding Officer/Officer in Charge and shall be strictly limited to these designated areas that are outfitted with approved receptacles for the collection of smoking debris. Designated smoking areas shall be located a sufficient distance away, approximately 50 feet, from building entrances, exits and combustible materials such as wood decks attached to buildings, and wood mulched and grassed areas.

9. Electronic cigarettes (e-cigs). Personal vaporizers, vape pens, and similar equipment (collectively known as Electronic Nicotine Delivery Systems (ENDS)) are battery-powered devices that simulate tobacco smoking by producing a heated vapor that resembles smoke. Noting the hazards posed and incidents caused by these devices, user safety can be increased by:

   a. Stowing batteries to prevent electrical short circuits. Silicone or plastic storage cases are commercially available to safely store these batteries.

   b. Using only the original charger. Supplied chargers are designed to match the device's amperage and voltage requirements to recharge safely and without incident.

   c. Buying quality equipment from a reputable manufacturer. Models that are more expensive are designed with engineered safety devices that monitor the equipment to prevent overcharging and overheating.

   d. Refraining from device modification. Unauthorized modifications can bypass the safety mechanisms manufactured into the original device.

10. Fire Drills. Emergency evacuation/fire drills, including post evacuation musters, must be conducted and documented in all structures. Minimum evacuation drill frequency is as follows:

a. In industrial buildings and in structures in which personnel are quartered, excluding family housing, drills must be conducted semi-annually.

b. In child development centers, drills must be conducted monthly.

c. In all other buildings, drills must be conducted as often as the Commanding Officer/Officer-in-Charge deems necessary, but at a minimum of once every 12 months.

11. Detection, Alarm and Fire Suppression Systems. Shore facilities must be protected by fire detection, alarm and suppression systems as required by NFPA standards and Occupational Safety and Health Administration (OSHA) regulations. Fire systems will be installed in accordance with NFPA standards. Fixed installed systems must be maintained in an operable condition at all times in accordance with NFPA standards or Unified Facilities Criteria (UFC). Fire systems must be inspected and tested annually or more frequently as required by NFPA standards.

a. Detection and Alarm Systems.

(1) Smoke Detectors/Carbon Monoxide Detectors. The Federal Fire Prevention Control Act of 1974 (FFPCA), as amended by the Fire Administration Authorization Act of 1992, Public Law 102-522, requires permanently wired, AC powered smoke detector systems for all housing and buildings with sleeping areas for personnel. This requirement includes new Coast Guard-owned property and property to be leased by the Coast Guard. Hard-wired smoke detectors are required with battery backup in all Coast Guard housing. Installation, testing and maintenance of smoke detectors and carbon monoxide detectors shall be conducted in accordance with manufacturers' recommendations.

(2) Typical Carbon Monoxide Sources. There is the potential for creation of carbon monoxide and for carbon monoxide poisoning when any combustion source is not properly vented, installed, operated, and maintained. The following are some typical sources of Carbon Monoxide:

(a) Hot Air Furnace – oil or gas fired.

(b) Hot Water Boiler – oil or gas fired.

(c) Hot Water Heater – oil or gas fired.

(d) Clothes Dryer – gas fired.

(e) Kitchen Ranges and Ovens – gas fired.

(f) Fireplaces and Wood Stoves – including gas logs, coal, cord wood, and wood-pellet fueled.

(g) Kerosene Space Heaters – radiant or convection type, home or shop usage.

(h) Engines - gasoline and diesel, including yard equipment, electric generators, and sports equipment.

(i) Outside Air Intakes – located near operating gasoline or diesel engines, stationary or mobile.

(3) Installation and Signal Transmission. Fire detection and alarm systems installed within Coast Guard facilities shall be in compliance with reference (k) and transmit to a central station, service station, or central center (off-base), Coast Guard fire department, local municipal fire department or a continuously staffed watch station (e.g., operations center, etc.).

b. Fixed Fire Suppression Systems.

(1) Residential Automatic Sprinkler Systems. Residential sprinklers systems shall be provided in newly acquired/built housing in accordance with the NFPA 10.

(2) Non-Mission Critical Fixed Halon Systems. Replacement of all non-mission critical fixed Halon fire systems, including total flooding systems, shall be with non-Halon extinguishing agents. The replacement shall be on an attrition basis as per reference (l).

(3) Fixed Fire Suppression Systems. Fixed fire protection system designs shall be reviewed by a Fire Protection Engineer and shall be installed in new construction and renovation projects and existing systems maintained in accordance with reference (d) and NFPA standards or UFC criteria.

(4) Standpipe Hand Hose Line Systems. Hand hose line systems shall only be installed in Coast Guard shore facilities where an active Coast Guard fire brigade exists. Only trained fire brigade members shall use hand hose line systems. Where installed, standpipe hand hose line systems shall be tested, inspected and maintained in accordance with reference (m) standards.

(5) Carbon Dioxide (CO_2) Hose Reel Systems. CO_2 hose reel extinguishing systems shall be removed from all Coast Guard shore facilities unless the unit has a trained fire brigade.

(6) Maintenance. Inspection, testing and maintenance of fire detection/alarms, automatic sprinkler systems and other fixed fire protection systems shall be conducted only by personnel qualified in accordance with applicable NFPA standards or UFC criteria and licensed by the State Fire Marshal's office.

c. Portable Fire Suppression Equipment. Portable fire extinguishing equipment shall be provided in all Coast Guard facilities for the specific fire hazards involved. Portable extinguishers shall be placed in accordance with Table 18-1 below.

(1) Portable fire extinguishers shall be inspected monthly and a record of inspection maintained. Damaged, corroded or defective extinguishers shall be removed from service, repaired, and/or replaced with an equally rated extinguisher.

(2) Extinguishers shall be tested and serviced by personnel qualified in accordance with reference (n).

(3) Halon 1211 portable fire extinguishers shall be replaced with an approved agent extinguisher when the extinguisher fails, is used, or requires hydrostatic testing. Portable Halon fire extinguishers shall not be used for training.

Requirements for Portable Fire Extinguishers			
Occupancy type	**Location or travel distance (ft)**	**Extinguisher type and size**	**Per ft²**
Family quarters	In Kitchen Areas In Garage Areas	One 2A-10 BC One 2A-10 BC	n/a
Hangars	50	One 4A-40 BC	1500
Shops, industrial areas w/o bulk flammable liquids	50	One 2A-10 BC	1500
Shops, industrial areas with bulk flammable liquids or flammable/combustible processes	50	One 4A-40 BC	1500
Storage facilities w/o flammables	75	One 2A-10 BC	3000
Storage facilities with bulk flammables	50	One 4A-40 BC	1500
Mercantile or general business	75	One 2A-10 BC	3000
Hospitals and clinics	75	One 2A-10 BC	3000
Barracks, hotels, motels	75	One 2A-10 BC	3000
Assembly	75	One 2A-10 BC	3000
Education	75	One 2A-10 BC	3000
Daycare	50	One 2A-10 BC	1500
Mooring docks	75	One 4A-40 BC	n/a
Note: Extinguisher placement should be placed near exits then evenly spaced throughout within the travel distance guidelines. The number of extinguishers must meet both square footage and travel distance requirements.			

Table 18-1: Portable Fire Extinguisher Distribution

12. Training Program. All personnel shall receive training necessary to ensure familiarity with the unit FEAP/Fire Action Plan; the use of any firefighting equipment they are expected to use, such as portable fire extinguishers; evacuation and mustering procedures; and Coast Guard policy on who may fight fires ashore.

13. Public Fire Prevention Education Promotion. Public fire prevention education programs shall be developed to inform and motivate Coast Guard personnel and dependents who reside or work on Coast Guard facilities as to their individual responsibilities in fire prevention.

14. Pre-fire Planning. At units without Coast Guard fire departments, the local agency or volunteer organization having responsibility for fire protection in the jurisdiction where the unit's buildings and housing are located shall be invited to prepare and biennially review a pre-fire plan for the unit's in accordance with Public Law 102-522. The fire Identification Standardization Act of 1992. The local agency or volunteer organization shall be granted access to all structures, consistent with national security concerns, to facilitate the pre-fire plan preparation and review. If such agency or organization declines an invitation to prepare and review pre-fire plans, such action shall be documented in a memorandum for the record and retained at the unit.

15. Hot Work. All Coast Guard units shall establish a written hot work program consisting of the following procedures:

    a. Before welding and/or cutting is permitted for Coast Guard operations, other than designated shops on Coast Guard facilities, the area shall be inspected by a Fire Inspector, Assistant Safety Officer, Fire Warden or Competent Person responsible for authorizing cutting and welding or other hot work operations. Hot work permits shall be issued daily for each work site where hot work is to be performed.

    b. Determine if area where work is to be performed involves a confined space and requires testing under requirements outlined in Chapter 13 of this manual and references (e) and (f).

    c. Establish designated precautions to be followed and issue a written hot work permit granting authorization to proceed, indicating limitations on work operations and times.

    d. Require one or more fire watch personnel be assigned with ABC fire extinguishers if conditions warrant.

16. Fire Watches. Fire watches shall be required whenever hot work involving open flame, spark or heat producing work such as welding, cutting, brazing or grinding is performed in the presence of combustible materials or flammable liquids and residues.

    a. Fire Watch personnel shall be trained to identify potential hazards (e.g., smoldering materials, cutting slag, etc.) from hot work operations. Multiple fire watches shall be required when hot work may transmit fire hazards to adjoining spaces, connecting

decks, overhead or bulkhead; fire watches shall be provided on both sides of the hot deck, overhead or bulkhead.

b. Fire watches shall be equipped with and trained in the use of personal protective equipment (PPE) as required for the operation being conducted (e.g., goggles or helmet, NIOSH-approved respirators and fire-retardant clothing) and fire extinguishing equipment.

c. Fire watches shall be trained on the proper selection and use of fire extinguishers and emergency alarm signals to alert employees. Fire extinguishing equipment shall be provided which is suitable for the nature of the operation being conducted and the amount of flammable/combustible material present.

d. Fire watches must remain on site with their extinguishing equipment at least 30 minutes after completion of hot work or until the hot work area is cool to the touch, in order to detect and extinguish smoldering fires.

17. Organized Fire Departments, Fire Brigades, and Aircraft Rescue and Fire Fighting Support. Organized, trained and equipped fire suppression forces shall be available to certain shore facilities in accordance with below sections. Existing Coast Guard fire departments, aircraft rescue and firefighting crews (ARFF) and fire brigades, shall provide fire protection. Response assets of firefighting organizations shall not count toward the minimum requirement unless they meet the apparatus, response time, staffing and training requirements set forth in this Chapter. These criteria shall be used only to determine the minimum level of fire protection required for Coast Guard installations. Staffing, equipping, training and operating Coast Guard fire service fire departments shall be in accordance with this Chapter.

a. Command Support. Organized fire departments shall work directly for the unit Executive Officer, Facilities Officer or Emergency Services Division who reports to the Commanding Officer at the division level and be a member of the command Safety Committee. Commanding Officers at units with fire departments, fire brigades or aircraft rescue and firefighting crews, shall properly support fire safety, prevention and response services by advocating for operational funding, manning and training to the Headquarters Capability and Mission Managers in accordance with the appropriate sections of this Chapter and other applicable directives.

b. Funding. Units with fire departments, fire brigades or ARFF crews should have an operating budget and should be funded by the command to allow for procurement and replacement of firefighting support equipment, materials, and supplies necessary to perform fire safety, fire suppression and prevention missions and emergency response operations. Commandant (CG-43) is responsible to centrally manage a program to fund and replace fire apparatus at Coast Guard fire departments.

c. Staffing. Units with organized fire services shall coordinate with Headquarters Capability and Mission Managers to support staffing in accordance with Tables 18-3 and 18-4 of this chapter. In addition to these tables, each fire department shall have

no fewer than one GS-0081 Fire Chief and one Deputy Chief or at least two Assistant Fire Chiefs. Secondary structural, ARFF and wild land apparatus may be cross-staffed, allowing firefighters to respond to a structural, ARFF and wild land emergency (but not more than one at a time) while still maintaining initial primary ARFF and structural coverage. A Company Officer qualified to act as incident commander and coordinate the actions of several companies at once shall be available to respond within nine (9) minutes to all structural fires, HAZMAT incidents or other emergency response operations and within three (3) minutes to ARFF incidents. Availability of volunteer and on-call firefighters shall be documented with records of previous responses.

d. Training and Certification. Units with structural fire departments, fire brigades and aircraft rescue and firefighting crews shall ensure fire protection personnel are properly trained to the requirements of this Chapter. Firefighters assigned to Coast Guard fire departments shall be certified for their assigned duties in accordance with Table 18-2 of this chapter. Fixed and rotary-wing ARFF personnel shall be trained in accordance with reference (o) on aircraft rescue and firefighting. All personnel shall be thoroughly familiar with operating procedures of their departments and trained to operate apparatus, appliances and equipment with which they respond. All full-time firefighting personnel, should hold certifications from the Department of Defense Fire and Emergency Services Certification Program (DOD FESCP) or equivalent NFPA training qualifications for their primary duties in accordance with Table 18-2 of this chapter. The DOD FESCP provides a flexible, cost effective means to train and certify firefighters for increasing responsibilities. This program is accredited through the International Fire Service Accreditation Congress (IFSAC), allowing certifications to be recognized throughout the fire services. Reference (p) describes the procedures for obtaining DOD FESCP certifications. To protect this vital accreditation, all Coast Guard fire service personnel must strictly adhere to the procedures and requirements of the program as described in its manuals and directives. The Fire Chief of each department shall be personally responsible for ensuring compliance with program procedures and protecting the integrity of the program from compromise. In addition to Table 18-2, fire department personnel supporting wild land firefighting operations shall also complete the National Wildfire Coordinating Group (NWCG) Crosswalk certification program.

U. S. Coast Guard Firefighter Certification Requirements	
Position	**Certification Levels [1]**
Firefighter [2, 3]	EMT Firefighter I & II Airport Firefighter [4] HAZMAT Operations [3] Shipboard FF for land-based fire fighters [5]

U. S. Coast Guard Firefighter Certification Requirements	
Position	**Certification Levels [1]**
Driver Operator [2, 3]	EMT EVOC Apparatus Driver Operator for: Pumpers ARFF [6] Aerials [6] Water Tenders [6] Shipboard FF for land-based fire fighters [5]
Firefighter/Driver HAZMAT Tech [2, 3]	EMT EVOC Apparatus Driver Operator for: Pumpers ARFF [6] Aerials [6] Water Tenders [6] HAZMAT Technician [3] Fire Officer I Fire Instructor I Fire Inspector I Airport Firefighter [4] Shipboard FF for land-based fire fighters [5]
Firefighter/Driver Intermediate Life Support	AEMT EVOC Apparatus Driver Operator for: Pumpers ARFF [6] Aerials [6] Water Tenders [6] HAZMAT Technician[3] Fire Officer I Fire Instructor I Fire Inspector I Airport Firefighter [4] Shipboard FF for land-based fire fighters [5]

U. S. Coast Guard Firefighter Certification Requirements	
Position	**Certification Levels [1]**
Lead Firefighter (Captain) [2,3]	EMT or AEMT level of training HAZMAT Technician [3] Fire Officer I & II Fire Instructor I & II Fire Inspector I & II HAZMAT Incident Commander [3] Airport Firefighter [2] Shipboard FF for land-based fire fighters [5]
Fire Inspector [2, 3]	Fire Inspector I & II Fire Instructor I HAZMAT Awareness – Operations [3]
Supervisory Firefighter (Assistant Fire Chief, Deputy Chief) [2,3]	Fire Officer III Fire Instructor III [7] Fire Inspector III [8] HAZMAT Incident Commander [3] Fire Investigator Airport Firefighter [4] Shipboard FF for land-based fire fighters [5]
Fire Chief [2]	Fire Officer IV Fire Instructor I & II Fire Inspector I & II HAZMAT Incident Commander [3] Fire Investigator Airport Firefighter [4] Shipboard FF for land-based fire fighters [5]
Dispatchers/Alarm Room Operators	Telecommunicator I & II Hazardous Materials – Awareness [3]
Military Auxiliary, Volunteer or On-Call Structural Firefighters [2]	Basic Fire Course / 20 hour HAZMAT 1st Responder Awareness (FRA) [3] Confined Space Rescue course / 40 hr. EMT Shipboard FF for land-based fire fighters [5]
Airport Fire Fighter [2]	FAA Certification training / 40 hour Firefighter I & II

U. S. Coast Guard Firefighter Certification Requirements	
Position	**Certification Levels [1]**
Notes: [1] Many certifications require lower level certifications as prerequisites, e.g., Firefighter II requires completion of Firefighter I and Fire Officer I requires Fire Instructor I. [2] Military firefighters may be assigned duties without regard for their military rank. Certification levels for military personnel shall be determined by their assigned duties and responsibilities. [3] Where Hazardous Materials incident response is an assigned department task or an individual is assigned as part of a HAZMAT response team, DOD Certification or equivalent to the appropriate level shall be required. [4] Not required at locations without an aviation mission [5] Training only required if fire department supports these firefighting operations [6] Not required if the fire department does not operate these vehicles [7] Fire Instructor III required if assigned as Assistant Chief of Training [8] Fire Inspector III required if assigned as Assistant Chief of Fire Prevention ** All Fire Department personnel shall complete ICS 100, 200, 300, IS-700, and 800 (FEMA) training to comply with NIMS training requirements.	

Table 18-2: Certification Requirements for U. S. Coast Guard Firefighters

e. Fire Brigades. The degree of potential exposure to a hazardous environment and the level of training shall determine the limits of fire brigade action and responsibility. Fire Brigades shall have a written organizational statement and standard operating procedures that clearly define the limits of action and responsibility. Fire Brigades shall meet or exceed training, equipment and other requirements of references (q) and (r) for all actions and responsibilities designated in the organizational statement and standard operating procedures. These procedures must integrate the National Incident Management System (NIMS) for emergency and training operations. NIMS shall be established with written procedures applying to all members involved in emergency or training operations and shall be used to manage all emergency and training operations. Personnel assigned to the Fire Brigade shall pass physical and medical capabilities of performing the required tasks.

f. Fire Department Emergency Medical Services. Coast Guard fire departments will provide emergency medical services when directed by the unit Commanding Officers. All full-time Coast Guard civilian front line firefighters providing emergency medical services shall meet State or National Registry requirements and be certified to at least the EMT. Where the fire department is tasked to provide the primary emergency medical response, a minimum of two personnel shall respond to reported medical emergencies. Both personnel shall be trained and certified to at least the EMT in accordance with reference (s) or applicable state requirements. Personnel requirements for staffing ambulances shall be over and above those required in Tables 18-3 and 18-4 of this chapter for staffing fire apparatus. Standard operating procedures shall be developed and implemented with medical officers and clinics to

ensure that the initial response departments providing emergency medical care operate under the formal direction of a medical officer.

g. Fitness and Wellness. Fire Chiefs shall implement a physical fitness exercise and wellness program designed to maximize job performance for military and civilian firefighters based on guidance from NFPA (references (t), (u), and (v)), and International Association of Fire Chiefs/International Association of Firefighters Fire Service Joint Labor Management Wellness-Fitness Initiative. Neither fitness initiative program nor the pack test shall be subject to duty restrictions, disciplinary action or grounds for termination if a member fails to meet the criteria set forth in either program. Fitness programs shall include fitness assessment requirements as outlined in references (u) and (v).

h. Medical Requirements for Firefighters. Coast Guard firefighters shall meet the entrance and retention requirements of reference (v), as determined by a physical examination provided by the Coast Guard in accordance with reference (v). Where Coast Guard medical facilities cannot accommodate testing requirement for firefighters' physicals, the examination shall be performed by outside medical services in accordance with requirements in Chapter 3 of Coast Guard Occupational Medical Manual, COMDTINST M6230.32 (series).

i. Personal Protective Equipment (PPE). All Coast Guard firefighters shall be appropriately equipped for their assigned duties. Structural or ARFF firefighters shall be provided with a full protective ensemble, to include, but not limited to: turnout coat, pants, gloves, helmet, hood and boots, specialized equipment for HAZMAT response and ARFF firefighting. Safety glasses with side shields or goggles shall be worn when full-face respirators are not in use. A Self Contained Breathing Apparatus (SCBA) with a rated service time of no fewer than 30 minutes and Personal Alert Safety System (PASS) devices shall also be worn into all Immediately Dangerous to Life and Health (IDLH) atmospheres, including, but not limited to: interior structural fires, aircraft crashes, and vehicle fires. The Oxygen Breathing Apparatus (OBA) shall not be used when fighting structural fires ashore. All personal protective equipment shall conform to applicable NFPA standards, in effect at time of manufacture. Firefighting personnel shall meet grooming standards that ensure scalp, neck and facial hair does not interfere with the proper fit of the SCBA face piece and meet OSHA standards per Chapter 9.

18. Coast Guard Personnel Ashore. Coast Guard personnel ashore must limit active engagement in firefighting except for:

a. Properly trained and equipped individuals whose primary duty is firefighting.

b. Properly trained and equipped members of a Fire Brigade (meeting NFPA and OSHA requirements).

c. Instances where a fire is in the early stages and can be extinguished using a single portable fire extinguisher, while concurrently contacting local emergency personnel.

d. Lifesaving purposes, while concurrently contacting local emergency personnel.

19. Fire Suppression Forces (Non-Coast Guard). When there are no established Coast Guard fire departments, ARFF crews or fire brigades, these services must be provided by other firefighting organizations under obligation to respond as a result of jurisdictional responsibilities, mutual aid agreements or contractual obligations or by combined responses from Coast Guard fire departments and other organizations.

20. Structural Fire Suppression. Where structural fire protection is provided at Coast Guard units, the required capabilities for structural fire and other emergencies are depicted in Table 18-3 of this chapter. When combined with the fire and safety inspection frequency for Coast Guard structures, the general age and fitness of the Coast Guard population, and the presence and vigilance of watch standers who may discover and report fires in their early stages, the requirements in Table 18-3 of this chapter are considered equivalent to those in reference (v).

    a. Structural Fire Departments. Structural fire departments often respond to and mitigate a broad array of emergency situations. In addition to structural fires, they are commonly called to the scene of wild land fires, medical emergencies, and confined space incidents, situations requiring specialized rescue skills or equipment, hazardous materials emergencies, weapons of mass destruction, flooding, and motor vehicle accidents. Additionally, they are often assigned routine responsibilities such as fire hydrant testing, fire main flushing and firehouse self-help projects or other duties associated with GS-0081 occupational series. Normally, though, the need for and minimum capabilities of fire departments are based on the traditional and usually most demanding mission of controlling structural fires. Where required by the criteria in Tables 18-2 and 18-3 of this chapter, structural fire departments shall be equipped, trained and administered in accordance with references (p), (r), (x), as well as ANSI and NFPA consensus standards.

        (1) The National Incident Management System (NIMS) shall be used at the scene of fire and emergency operations, adapted as necessary to interface with procedures employed by local jurisdictions with which mutual aid agreements may be in effect.

        (2) Standard Operating Procedures shall be in effect that specify responsibilities for hazardous material, confined space, structural firefighting, emergency medical service and other applicable emergency response activities.

        (3) The fire department shall review all construction projects, facility modernization or rehabilitation projects, and self-help projects, to assist in ensuring that they meet the requirements of the International Code Council (ICC). Reference (h), or the more stringent codes related to life safety, shall take precedence over any conflicting requirement. At units without fire departments, plans review shall be conducted by facilities engineering and environmental health and safety.

(4) Fire department training shall be in accordance with Table 18-2. Training shall be conducted and documented for all personnel assigned fire and emergency services duties. On-the-job training shall be in conformance with the objectives outlined in NFPA or DOD Firefighter Certification program (reference (p)) and shall be provided by fire department personnel meeting Fire Instructor I and II certification. All Coast Guard structural firefighters shall participate annually in live fire training in accordance with reference (y). When feasible, Coast Guard fire departments shall be provided with a live burn training building.

Structural Fire Fighting Apparatus Requirements		
Apparatus [5]	**Aggregate Response Time (ART)[1]**	**Staffing [4]**
First Pumper [2]	5 minutes	4
Second Pumper [2]	9 minutes	4
Third Company	9 minutes	4
Supervisor	7 minutes	1

Notes

1 Aggregate Response Time (ART) shall be defined as the time from initial receipt of alarm to arrival at the scene of an emergency incident. Response time includes receipt of alarm at the public access point (dispatch center or fire department), dispatch of apparatus and personnel, turnout of apparatus and personnel, and travel time to the scene of the incident in accordance with applicable state and local statutes. Receipt and dispatch shall be assumed to be one minute, turnout shall be assumed to be 90 seconds, and road speed shall be calculated at 30 miles per hour in urban areas and 45 miles per hour in rural areas.

2 Pumpers shall be capable of pumping 1000 gallons per minute, shall carry at least 500 gallons of water and carry at least 400 feet of 1 ¾ or 2-inch attack hose line and 800 feet of 2-½ inch or larger supply hose line. Credit is authorized for hybrid vehicles such as quints, rescue engines, squirts, etc., which meet the pumping and hose requirements for pumpers.

3 The second company shall be equipped with an aerial device if the installation has a structure over 3 stories in height or aircraft hangars. If the installation has no structures over 3 stories and no hangars, the third company may be equipped with a Pumper, aerial device, rescue squad vehicle or hybrid vehicle. In all cases, the third company shall be trained and equipped to conduct "truck company operations," including search and rescue, ventilation, salvage and overhaul, etc.

4 Apparatus staffing shall be in accordance with NFPA 1710 (ref (v)) and the Coast Guard Staffing logic and manpower Requirements Manual, COMDTINST M5310.6 (series).

Table 18-3: Required Structural Fire Fighting Response

b. Structural Fire Fighting Apparatus. Structural fire apparatus provided to meet the response requirements in Table 18-3 of this chapter shall meet or exceed the requirements in reference (z).

(1) Structural fire apparatus shall be rated to at least 1000 gallons per minute, and carry a minimum of 500 gallons of water.

(2) Departments that have buildings over three (3) stories and large aircraft hangars will have apparatus able to reach the highest floor.

c. Marking and identification. All major Coast Guard fire department vehicles shall be painted red, yellow or lime green. The words "U.S. COAST GUARD" shall be prominently displayed independently or as part of the department's or unit's name on both sides of the vehicle in letters appropriate for the vehicle's size but no smaller than three inches high. Unit identification shall also be placed on the top of all apparatus.

d. Vehicle Safety Equipment. Fire and emergency service response vehicles shall be equipped with appropriate visual (overhead lighting) and audible warning devices. The minimum types, numbers and placement of such devices (sirens) will be determined by the most stringent requirements in applicable Department of Transportation standards, local and state laws, and NFPA 1901-1904.

e. Communications Equipment. All vehicles assigned to Coast Guard fire departments shall be equipped with two-way radio communications meeting current Federal Communication Commission (FCC) regulations. All communications equipment shall be able to communicate with dispatchers, other fire, police, security departments and emergency service vehicles, mutual aid agencies and airfield controllers, as applicable.

f. Reserve Apparatus. At least one reserve pumper shall be maintained by structural fire departments for use when a primary apparatus is unusable due to breakdown or preventive maintenance. Reserve apparatus shall meet the requirements of reference (aa) or have been refurbished in accordance with Annex D of that NFPA standard. Personnel performing maintenance shall be certified in accordance with NFPA 1911 as an Emergency Vehicle Technician (EVT).

21. Structural Fire Departments Providing Aircraft Rescue and Fire Fighting (ARFF) Protection.

a. Fixed Wing Aircraft. Coast Guard air stations with permanently assigned fixed wing aircraft shall be provided full-time ARFF protection for air operations. Coast Guard fire departments providing ARFF protection shall meet both ARFF and structural response requirements in Tables 18-3 and 18-4 of this chapter. Departments with an ARFF mission respond to aircraft crashes, standby for declared emergencies, hot refuels, hot defuels, medical evacuations, and potential crash situations and respond to other emergencies such as runaway batteries, fuel spills, hot brakes and hot engine starts to reduce the risk that a major mishap will develop. These departments shall be trained and equipped in accordance with Table 18-2 of this chapter, based on the largest Coast Guard aircraft permanently assigned to the airfield. Staffing for such departments shall be provided to satisfy the greater of the requirements in Tables 18-3 and 18-4 of this chapter. Specific additional requirements for departments that provide ARFF protection include:

(1) ARFF protection must be provided at air stations and other aviation facilities with assigned aircraft (e.g., Forward Operating Bases, Forward Operating Locations, seasonal facilities, etc.,) in accordance with Table 18-4. Reduced

ARFF protection may be permitted on a case by case basis. Units making such a request must submit a waiver. This ARFF waiver process does not apply to flight deck equipped cutters. Coast Guard air stations shall have ARFF services available to meet operational needs and applicable requirements of the Naval Air Training and Operations Procedures Standardization (NATOPS) U.S. Navy Aircraft Fire Fighting and Rescue Manual (NAVAIR 00-80R-14) or NFPA 403 standards. In situations where NATOPS requirements cannot be met, the following shall apply.

(2) NATOPS can only be implemented at air stations where ARFF resources are under the operational and administrative control of the Coast Guard or the air station is a tenant unit of another military service. At locations where Coast Guard resources are not provided, or where the unit is a tenant of an airport not meeting NATOPS criteria, the Commanding Officer shall establish an agreement whereby adequate ARFF services shall be provided 24 hours a day to meet the criteria of NFPA 403 and 414 standards.

(a) The apparatus and equipment specified to comply with these requirements are not designated for application to structural firefighting and should not be used for that purpose. Equipment for ARFF operations shall be in addition to that required for structural fire protection.

(b) Firefighters expected to provide ARFF protection shall be trained and certified as Airport Firefighters in accordance with reference (o). Airport Firefighters shall hold Department of Defense Fire and Emergency Services Certification Program (DOD FESCP) or equivalent certifications.

(c) Firefighters providing ARFF protection shall be equipped with a protective ensemble meeting the requirements of (NAVAIR 00-80R-14), NFPA 1976, 2000 edition, or the portions of NFPA 1971, 2007 edition applicable to proximity ensembles when responding to aircraft emergencies. SCBAs shall be worn when fighting aircraft fires, except when in the confines of an ARFF vehicle cab.

(3) ARFF fire apparatus provided to meet the response requirements in Table 18-4 of this Manual shall meet or exceed the standards of the applicable chapter of reference (aa), in effect at the time of manufacture.

(4) At least one reserve ARFF vehicle of similar capacity shall be maintained by fire departments with an ARFF mission for use when a primary apparatus is unusable due to breakdown or preventive maintenance. Reserve apparatus shall meet the requirements of reference (aa) or have been refurbished in accordance with Annex D of reference (z).

(5) Cross staffing is defined as using personnel to staff both structural and ARFF vehicles, but not depleting one or the other entirely at the same time. When responding to mutual aid responses, units shall be allowed to be cross staffed.

The capability shall be maintained on the facility to respond with one fully staffed vehicle to a structural, wild land or ARFF emergency. At no time shall primary ARFF or structural staffing be cross staffed. Where required, secondary ARFF and structural units may be cross staffed.

b. Rotary-Wing Aircraft Rescue and Fire Fighting Crews. Coast Guard air stations permanently assigned only rotary-wing aircraft shall meet the requirements in Table 18-4 appropriate for their largest aircraft. Specific requirements include:

(1) Personnel assigned fire suppression duties shall be trained in accordance with reference (o) standards on aircraft rescue and firefighting. Personnel shall be trained on aircraft types, engines and systems, ARFF apparatus, equipment and personal protective equipment, including SCBA and ARFF safety.

(2) ARFF apparatus shall be provided to meet the response requirements in Table 18-4 and shall meet or exceed the standards of the applicable chapter of reference (aa) in effect at the time of manufacture.

(3) Rotary-wing crash crews shall be equipped with protective clothing meeting the requirements of NFPA 1976 (Standard for Protective Ensemble for Proximity Firefighting), including coats, pants, helmets, gloves and boots. They shall wear and use SCBAs when engaged in firefighting except when in a fully enclosed cab of a vehicle.

(4) Each person assigned rotary-wing crash duties shall participate in a monthly drill and at least one live fire drill each year.

AARF Response Requirements

Type of Aircraft Assigned	Mobile Apparatus Characteristics	Response Time	Staffing
MH-65	One vehicle with 150 gallons of Aqueous Fire Fighting Foam (AFFF) Premix **OR** One Twin Agent Unit (TAU)	Primary 3 min	3
MH-60 **G37A**	Two vehicles, One Primary and One Secondary with a total of 2000 gallons of water capable of producing AFFF and discharging AFFF solution at a combined rate of at least 1000 Gallons Per Minute (GPM) **OR** One TAU **AND** one vehicle with 1500 gallons of water capable of producing AFFF and discharging AFFF solution at a rate of at least 500 GPM	Primary 3 min Secondary 5 min 3 min	3 each Or 2 and 3

AARF Response Requirements			
HC-130 H, J HC-144	Two vehicles with a total of 3740 gallons of water capable of producing AFFF and discharging AFFF solution at a combined rate of at least 1370 GPM	Primary 3 min Secondary 5 min	3 each
All Fixed Wing Aircraft	One additional structural pumper or water supply vehicle with either of the capabilities to establish a supplemental water supply, or to provide medical support. These assets can be provided through mutual aid provided they meet this standard. **AND** One command officer	5 min 5 min	1 each

Table 18-4: Required ARFF Response

22. Rotary-Wing Landing Pads or Helispots. Coast Guard facilities that provide a designated landing area for routine rotary-wing landings and takeoffs but have no aircraft permanently assigned do not require manned crash, fire and rescue equipment. Each such facility must have at least one 150-pound Halon replacement agent, 150-pound Compressed Air Foam or 150-pound Potassium Bicarbonate Powder (PKP) wheeled extinguisher available for fire protection of routine operations. The decision to man the wheeled extinguisher described above with a trained operator on an as-required basis rests with the Commanding Officer/Officer-in-Charge of the facility operating the landing pad. Personnel required to perform this duty must receive training.

23. Apparatus Replacement. Replacement of fire apparatus shall follow the guidelines below:

    a. Lifetime. The useful lifetime of principal frontline fire apparatus required by Tables 18-3 and 18-4, including pumpers, water tenders/tankers, aerial devices, hazmat, ARFF vehicles and rescue vehicles, is generally no more than 15 years. Each fire department shall develop a five-year plan outlining required major overhaul and vehicle replacement dates. This plan shall be submitted to the SILC and (CG-43).

    b. Acquisition. Commandant (CG-113), in coordination with unit Fire Chiefs, shall develop standards for the acquisition of emergency response/rescue fire vehicles.

    c. Funding. Commandant (CG-43) and Shore Infrastructure Logistics Center (SILC) are responsible for programming and funding the initial requisition and replacement of emergency fire and support vehicles in excess of Acquisition Construction and Improvement (AC&I) threshold. Funding for emergency fire and support vehicles below this threshold should be funded at the unit level.

d. Vehicle Disposal. Fire apparatus procured with Coast Guard funds shall not be transferred or disposed of without prior notification and approval from Commandant (CG-43) and (CG-113). Vehicle transfer or disposal shall be in accordance with reference (cc).

24. Mutual Aid Agreements. Mutual Aid Agreements (MAA) and Memoranda of Agreement (MOA) provide for reciprocal fire and emergency service support between the Coast Guard and one or more non-Coast Guard firefighting organizations. Federal law allows government agency firefighting organizations to enter into such agreements. Units are authorized and encouraged, where applicable, to enter into such agreements upon completion of chain of command administrative and legal reviews.

25. Safe Refuge Facilities. Establish alternative facilities or protected areas within a facility at remotely isolated shore unit locations where there is no mutual aid support from municipalities or federal facilities to provide a means of safe refuge until personnel can be evacuated by rescue personnel. Alternative safe refuge facilities must be incorporated into facility engineering design and support funding.

26. Designated Smoking Areas. Designated smoking areas are provided for employees who wish to smoke during break times. Locations are selected to minimize fire hazards and secondhand smoke exposure near building entrances. Designated smoking areas must be located a minimum of 50 feet from building entrances and combustible materials (e.g., petroleum storage, compressed gas, etc.) or wood decks that are attached to buildings and wood mulched and grassed areas. Designated areas must also be outfitted with approved receptacles for the collection of smoking debris.

27. Reporting. All fires, including incipient stage or smoldering events, must be reported to HSWL SC (se) and the SILC (esd) via the mishap reporting process, per Chapter 3 of this Manual. All Coast Guard fire department incident responses must be reported and tracked in the National Fire Incident Reporting System (NFIRS).

28. Waivers. The Health, Safety, and Work-Life Service Center, Safety and Environmental Health Division (HSWL SC (se)) is the Authority Having Jurisdiction (AHJ) for all fire safety and prevention standards unless otherwise delegated. This authority might overlap with the Commandant (CG-43) which serves as the AHJ for all building code standards. These authorities apply to all Coast Guard shore facilities. The HSWL SC (se) AHJ approves fire prevention equipment, staffing, training and procedures, and is authorized to interpret and waive provisions of fire safety standards including the provisions of this Manual. All waiver requests must be routed via HSWL SC (se) to Commandant (CG-113) for final approval. Waivers will only be granted if reasonable fire protection alternatives are identified and implemented by the requestor. Waivers are only valid for up to one year, at which time they may be re-evaluated upon request.

C. Responsibilities.

1. Director, Health, Safety and Work-Life (CG-11). Commandant (CG-11) must establish and promulgate Shore Fire Protection policies and standards.

2. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) is the Program Manager (PM for fire safety, including fire prevention, fire suppression and emergency response services and must:

   a. Establish and promulgate fire safety emergency response policies, instructions, and standards for shore facilities.

   b. Designate a Coast Guard Fire Marshal who must be the senior technical manager for shore unit fire safety and emergency response operations. The Coast Guard Fire Marshal must be considered the Chief of the Coast Guard Fire Service and is the central point of contact for all fire safety matters affecting Coast Guard shore facilities and a principal consultant for vessel and aviation fire safety upon request. The Coast Guard Fire Marshal will act as the Coast Guard's liaison with federal, national and local agencies on matters of fire suppression and safety. He/she will coordinate or conduct periodic fire department operational assessments, and fire causal investigations when deemed necessary.

   c. Specify the training and funding requirements of the field units with fire departments.

3. Headquarters Capability Managers and Mission Managers. Headquarters Capability Managers and Mission Managers must periodically review and ensure proper management, staffing, housing, and equipping of fire response services for their communities.

4. Office of Civil Engineering (CG-43). Office of Civil Engineering (CG-43) is the program manager for shore facilities and vehicles. As such, Office of Civil Engineering (CG-43) must provide oversight to ensure that engineering plans, designs, construction projects and self-help projects originating through the Coast Guard's Shore Infrastructure Logistics Center (SILC), SILC field units, and unit Facility Engineering Departments meet relevant standards promulgated by OSHA, NFPA National Fire Codes, and national model building codes. Office of Civil Engineering (CG-43) must also support the acquisition and disposal of Coast Guard owned or leased fire response vehicles.

5. Coast Guard Head of Contracting Activity (HCA), (CG-91). Coast Guard Head of Contracting Activity (HCA), (CG-91) must ensure that all procurements for commodities, systems, and equipment have been reviewed by the originator for compliance with the standards referenced in this Chapter.

6. Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC) must provide the necessary support and technical assistance for the development and implementation of an effective fire safety and emergency response program at all shore units. This includes, but is not limited to:

   a. Ensuring that units develop and implement fire safety programs focusing on the:

      (1) Identification and control of fire hazards.

(2) Proper procedures for the protection of building occupants.

(3) Proper use, storage and disposal of flammable and combustible materials.

(4) Utilization of appropriate fire suppression and firefighting equipment when provided.

(5) Ensure appropriate fire extinguishers are properly placed and inspected, and that personnel are trained.

(6) Training of appropriate personnel in fire suppression/firefighting, fire prevention/inspection.

(7) Proper maintenance and testing of fixed fire detection and suppression systems within their facilities.

b. Reviewing employee notices of fire hazards, investigating those notices as necessary and ensuring fire hazards are entered into the Hazardous Condition Management System (HCMS) or Unit Safety Assessment Tool (USAT).

c. Evaluating unit monitoring of risks associated with known fire hazards.

d. Including fire safety in the unit Safety and Environmental Health (SEH) risk assessment surveys as required in Chapter 4 of this Manual.

e. Auditing the operation and administration of the fire departments using the applicable SEH checklists.

f. Reviewing as requested, engineering plans, designs, construction projects and self-help projects originating through the Coast Guard's SILC, SILC field units, and unit Facility Engineering Departments for compliance with relevant standards promulgated by OSHA, NFPA National Fire Codes, national model building codes and Reference (e).

g. Investigating mishaps involving fires as directed by Commandant (CG-113).

h. Providing or coordinating appropriate fire safety, prevention, suppression and emergency response training support to fire department, fire brigade, fire warden and similar emergency response personnel.

7. Sector Commanders. Sector Commanders must:

a. Develop and implement the Sector fire safety program. Consult with the HSWL SC (se) Regional Safety and Environmental Health Office (SEHO) for assistance.

b. Manage fire risks and comply with the requirements of this Chapter to include:

(1) Developing a FEAP and fire evacuation diagrams.

(2) Developing and issuing fire safety instructions.

(3) Ensuring workplace inspections, as described in Chapter 4 of this Manual, include fire safety.

(4) Ensuring applicable fire related Sections of this Manual are implemented.

(5) Conducting fire prevention awareness campaigns and providing fire prevention awareness training.

(6) Ensuring installed fire detection and suppression systems are properly inspected, maintained and tested by a qualified individual in accordance with NFPA standards.

(7) Designation of smoking areas in writing by the Sector Commander and providing assurance that smoking is limited to the designated smoking areas.

c. Ensure all fires, including incipient stage or smoldering events are reported to HSWL SC (se) and SILC (esd) via the mishap reporting process, per Chapter 3 of this Manual.

d. Assist subordinate units with program development and training requirements.

8. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:

a. Develop and implement a fire safety program. Sector units must consult with their Sector Safety Manager (SSM) for assistance.

b. Manage fire risks and comply with the requirements of this Chapter to include:

(1) Developing a FEAP and fire evacuation diagrams.

(2) Developing and issuing unit fire safety instructions.

(3) Ensuring workplace inspections, as described in Chapter 4 of this Manual, include fire safety.

(4) Ensuring applicable fire related Sections of this Manual are implemented.

(5) Conducting fire prevention awareness campaigns and providing fire prevention awareness training.

(6) Ensuring installed fire detection and suppression systems are properly inspected, maintained and tested by a qualified individual in accordance with NFPA standards.

(7) Designation of smoking areas in writing by the CO/OIC and assurance that smoking is limited to the designated areas.

c. Ensure all fires, including incipient stage or smoldering events are reported to HSWL SC (se) and SILC (esd) via the mishap reporting process, per Chapter 3 of this Manual.

d. For Units with active fire departments where cutters are home-ported or where other government or private vessels are docked:

(1) Provide fire suppression services for the cutters and boats when they are in port; and

(2) Develop and implement standard operating procedures (SOPs) with medical officers and clinics to ensure the initial response departments providing emergency medical care operate under formal direction of a medical officer.

9. Supervisors. Supervisor must:

a. Ensure employees follow proper protocols and safe work practices when conducting hot work operations, including but not limited to posting fire watches and providing appropriate fire suppression capability.

b. Inspect workspaces daily to identify fire safety hazards; initiate action to mitigate any fire hazards present in employees work spaces.

10. Employees. Employees must:

a. Inspect workspaces daily for fire hazards and report hazards to supervisors.

b. Follow all safe work practices associated with hot-work.

CHAPTER 19 ELECTRICAL SAFETY PROGRAM

References:

(a) 29 C.F.R. §§ 1910.331-.335, "Safety-Related Work Practices"
(b) National Electric Code, NFPA 70®
(c) Naval Engineering Manual, COMDTINST M9000.6 (series)
(d) Electronics Manual, COMDTINST M10550.25 (series)

A. Discussion. As a multi-mission organization, the Coast Guard is exposed to possible electrical hazards in various Operations and Maintenance (O&M) procedures.

1. Background. The Coast Guard provides direction for electrical safety requirements in the workplace and safety related work practices for all maintenance and operational missions. These requirements comply with national and federal codes and are contained in Coast Guard instructions for these program areas.

2. Application. Specific and unique hazards exist at shore facilities and onboard Coast Guard vessels, air stations, and shipyards. Special electrical hazard controls are also necessary for construction, Aids to Navigation (ATON) operations, and electronic and communication maintenance processes. Continued implementation of an effective electrical safety program is vital for the safety of Coast Guard employees, successful completion of Coast Guard missions and the protection of Coast Guard property.

B. Program Requirements. All electrical equipment, systems, wiring devices and work procedures must conform to the provisions of this Chapter.

1. General Electrical Safety. The following requirements as further outlined in References (a) through (d) apply:

a. Units must have a written electrical safety program.

b. Training programs must match the specific work environment.

c. Supervisors and workers must have the ability to identify electrical hazards or potential hazards in the workplace.

d. Inspection programs must be standardized and conducted by qualified persons to identify hazards or potential hazards in the workplace.

e. Electrical equipment and systems must be assessed to identify hazards to include arc flash hazards as addressed in reference (b), and labeled by type, size and voltage that are readily visible.

f. Job Hazard Analysis (JHA) must be conducted for all tasks involving work on or around electrical systems.

g. Control or abatement plans must be implemented to mitigate electrical hazards.

h. Electrical safety must be incorporated into the design of equipment and facilities.

2. Cutters and Boats. In addition to the general requirements contained in Paragraph B.1 of this Section, the provisions in Reference (c), Chapter 077-E, (Includes Naval Ships Technical Manual (NSTM) by reference) apply. Each command must develop a comprehensive electrical safety program. The program must contain the following elements:

   a. Written designation of a command Electrical Safety Officer (ESO).

   b. Comprehensive training for all hands in hazards and safety precautions pertaining to shipboard electrical systems, equipment, and personal electrical/electronic equipment.

   c. Periodic inspections and testing of electrical equipment, tools, and electrical safety equipment to detect and correct potentially unsafe conditions. Accurate inventories of all such equipment must be maintained. Units must create and schedule local Preventive Maintenance System (PMS) actions for periodic inspections and testing of electrical and electronic equipment that does not have formal maintenance procedures.

3. Shipyards. In addition to the general requirements contained in Paragraph B.1 of this Section, the provisions of OSHA 29 C.F.R. § 1915 apply.

4. Electronic and Communications Systems. In addition to the general requirement of B.1 of this Section, Reference (d) of this chapter, and Chapter 4 of this manual, apply and include:

   a. Safety standards for electronic workbenches.

   b. Energized equipment safety practices and training.

   c. Safe work practices for working on energized circuits.

   d. Safe handling of portable electric and hand tools.

   e. Safe work practices for work on shipboard electrical systems.

   f. Training and procedures for the rescue and resuscitation of shock victims.

5. Construction and Temporary Electrical Services. OSHA 29 C.F.R. § 1926, Subpart K, "Construction Electrical Standards," apply to all Coast Guard construction, renovations and building modification work sites and include:

   a. Use of ground fault protection.

   b. Grounding requirements for systems, circuits and equipment.

   c. Safe use of extension cords, temporary cables and temporary lighting.

d. Lockout and tagging of circuits.

6. Training. Units must provide training to employees who are routinely exposed to electric hazards that cannot be reduced to a safe level by the electrical installation requirements of References (a) and (b). Within typical Coast Guard occupational environments, the following rates or occupations face such a risk and are required to be trained:

   a. Electrician's Mate (EM).

   b. Electronics Technician (ET).

   c. Information Systems Technician (IT).

   d. Aviation Maintenance Technician (AMT).

   e. Avionics Electrical Technician (AET).

   f. Machinery Technician (MK).

   g. Industrial machine operators.

   h. Material Handling Equipment (MHE) operators.

   i. Damage Controlman (DC).

   j. Any other personnel who might reasonably be expected to face comparable risk of injury due to electric shock or other electrical hazards.

7. Personnel Requiring Training. Personnel requiring training must be trained in and familiar with the safety-related work practices, use of equipment guidelines and personnel protection safeguards as required by Reference (a).

8. Reference. Further information is available by contacting HSWL SC (se).

C. Responsibilities.

1. Director, Health, Safety, and Work-Life (CG-11). Director, Health, Safety, and Work-Life (CG-11) must establish and promulgate policies and standards to promote electrical safety.

2. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must determine electrical safety program policies and objectives and prepare and publish directives to ensure proper implementation of the electrical safety program.

3. Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC) must provide comprehensive support to assist units in implementing their electrical safety program, including the following:

a. Assist units with establishing a written electrical safety program.

b. Conduct workplace hazard assessments, upon request from units, to determine if electrical hazards are present and to characterize exposure risk. Reports should recommend appropriate actions to mitigate all electrical hazards.

4. Sector Commanders. Sector Commanders must:

a. Develop and implement a written Sector electrical safety program per References (a) and (d). Consult with the HSWL SC (se) Regional Safety and Environmental Health Office (SEHO) for assistance.

b. Prohibit the use of any equipment that has not met all requirements of References (a) and (b).

c. Ensure that no energized electrical equipment is disassembled or undergoes maintenance without approval.

d. Establish and implement assured equipment grounding conductor program covering cord sets, receptacles that are not a part of the building or structure, and equipment connected by cord and plug that are available for use or used by personnel on those receptacles as outlined in Reference (a).

e. Assist subordinate units with program development and training requirements.

f. Ensure shore side electrical workers are qualified to perform assigned electrical tasks IAW reference (a). Warning: Coast Guard Electrician Mates (EM) are not trained or qualified to perform shore side electrical work as part of the rating qualification process. Coast Guard EMs must not be assigned to perform shore side electrical work unless they have received additional training, such as completing a shore side electrical worker apprenticeship program or other recognized training AND have a written qualification letter provided by their employer (Commanding Officer).

5. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:

a. Develop and implement a written electrical safety program per References (a) and (d). Sector units must consult with the Sector Safety Manager (SSM) for assistance. Consult with the HSWL SC (se) Regional SSEHO for additional assistance.

b. Prohibit the use of any equipment that has not met all requirements of References (a) and (b).

c. Ensure that no energized electrical equipment is disassembled or undergoes maintenance without approval.

d. Establish and implement assured equipment grounding conductor program covering cord sets, receptacles that are not a part of the building or structure, and equipment

connected by cord and plug that are available for use or used by personnel on those receptacles as outlined in Reference (a).

e. Ensure shore side electrical workers are qualified to perform assigned electrical tasks IAW reference (a). Warning: Coast Guard EMs are not trained or qualified to perform shore side electrical work as part of the rating qualification process. Coast Guard EMs must not be assigned to perform shore side electrical work, unless they have received additional training, such as completing a shore side electrical worker apprenticeship program or other recognized training AND have a written qualification letter provided by their employer (Commanding Officer).

6. Supervisors. Supervisors must ensure that no personnel operate, repair, or adjust electrical or electronic equipment unless that person has demonstrated knowledge of its operation and repair and of all applicable safety regulations.

7. Employees. Employees must:

a. Cease work and immediately notify the first line supervisor if the equipment or work process is not safe.

b. Follow all safe work practices including wearing of Personal Protective Equipment (PPE).

c. Use only authorized equipment to perform maintenance.

CHAPTER 20 AVIATION SAFETY PROGRAM

References:

(a) Executive Order 12196, "Occupational Safety and Health Programs for Federal Employees"
(b) 29 U.S.C. § 651, et seq., 29 C.F.R. §§ 1900-2400
(c) Risk Management (RM), COMDTINST 3500.3 (series)
(d) Coast Guard Air Operations Manual, COMDTINST M3710.1 (series)
(e) Participation in a Military or Civil Aircraft Accident Safety Investigation, COMDTINST 5100.28 (series)
(f) Auxiliary Operations Policy Manual, COMDTINST M16798.3 (series)
(g) Auxiliary Aviation Training Manual, COMDTINST M16798.5 (series)
(h) Shipboard-Helicopter Operational Procedures Manual, COMDTINST M3710.2 (series)
(i) Coast Guard Medical Manual, COMDTINST M6000.1 (series)
(j) Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series)
(k) Coast Guard Aviation Medicine Manual, COMDINST M6410.3 (series)

A. Discussion. The aviation safety policies detailed in this Chapter supplement general safety and environmental health policies and responsibilities detailed in this Manual.

1. Background. Coast Guard aviation safety evolution is similar to that of our DoD counterparts, to include recent implementation of Safety Management System (SMS) standards and protocols. SMS is recognized by the Federal Aviation Administration (FAA), International Civil Aviation Organization (ICAO) and commercial aviation entities as the worldwide industry standard. The Coast Guard aviation safety program implements proven SMS standards and protocols to reduce operational risk, eliminate preventable mishaps and enhance mission success.

2. Application. Unless specified, the following policies apply to all Coast Guard and Coast Guard Auxiliary manned and unmanned aircraft operations.

   a. As described in Chapter 1, Coast Guard aircraft in flight or embarked aboard Coast Guard cutters or other vessels are presumed to be engaged in uniquely military operations, and are exempted by Reference (a) from compliance with Reference (b) for all flight crew and passengers.

   b. While in a non-operational status, the uniquely military exemption no longer applies, and the unit must apply the standards contained in References (a) and (b) and 29, U.S.C. § 668, "Programs of Federal Agencies," and the Department of Homeland Security (DHS) Directive 066-01, "Safety and Health Manual;," where practicable or employ alternate Occupational Safety and Health (OSH) standards that are at least as stringent as OSHA standards. The Reference (a) exemption does not apply to Coast Guard Auxiliary aircraft.

B. Program Requirements. Aviation units must implement protocols that support the safety program requirements delineated in this Manual. Additional aviation SMS requirements are

listed below.

1. Aviation Safety Policy.

   a. Publish an aviation safety policy statement that emphasizes the command's commitment to safety, risk management and other unit-specific safety priorities. Other safety policy considerations to include in the safety policy statement or other unit policies (e.g., SOP, ORGMAN, etc.) include safety reporting without fear of reprisal; safety responsibilities, accountabilities and expectations including clear standards for acceptable behavior.

   b. Safety policies must be documented in writing and readily accessible to all unit members (e.g., web access, bulletin boards, etc.). Personnel assigned to perform primary or collateral safety duties must be designated in writing.

   c. Safety policies must be openly discussed and promoted by unit leaders and supervisors during daily activities (e.g., all-hands training events, briefings, etc.).

   d. Safety policies must be reviewed periodically to verify accuracy and relevance (e.g., change of command, FSO pass down, etc.).

   e. Safety policies should address Safety Culture elements (reporting culture, learning culture, just culture, informed culture, flexible culture) described in Chapter 1.

2. Aviation Safety Risk Management. Aviation units must implement the risk management procedures and protocols described in Reference (c). Aviation units must also implement the program requirements described in Chapter 4 of this Manual to identify and control workplace hazards.

3. Aviation Safety Assurance.

   a. Aviation Safety Standardization Assessment. FSOs shall complete the Aviation Safety Assessment Tool (ASAT) and provide it to CG-113 for review on an annual basis. Aviation safety examiners designated by Commandant (CG-1131) will review each unit's ASAT and provide direct feedback on the state of the unit's safety posture, share safety best practices, and garner feedback on the effectiveness of the support and guidance of Commandant (CG-113).

      (1) The requirements for aviation safety standardization visits are based on metrics that reveal heightened hazard exposure and potential for mishaps. These metrics include: unit hazard exposure profiles (e.g., facilities, operations, etc.); number and type of mishaps, occupational injuries, close calls/near misses and unit safety surveys. Units who are exposed to one or more of the above conditions will receive more frequent inspections to resolve safety deficits. At a minimum, units will receive an "in-person" aviation safety examiner visit on a triennial basis. Units may always request and other circumstances might necessitate the scheduling of off-cycle visits.

(2) The aviation safety examiner assists unit FSOs and commands in developing and/or maintaining the unit's Aviation SMS.

(3) The aviation safety examiner presents initial findings to the unit CO.

(4) Commandant (CG-1131) provides a final written report to the unit CO with visit findings and recommended actions for consideration.

(5) Aviation units should complete self-assessments using Commandant (CG-113), and HSWL SC (se) safety checklists and tools to enable prompt discovery and resolution of SMS deficiencies.

b. Aviation Unit Safety Survey. A detailed unit aviation safety survey must be conducted annually and whenever the CO directs. This all-encompassing report from the FSO to the CO should act as a *State of the Unit Safety* report. This survey is an in-depth audit of all phases of the unit's operations involving aviation safety. Units with an Auxiliary Aviation program must conduct a separate Auxiliary Aviation Survey. The survey should include:

(1) Areas of potential mishap and hazard exposure.

(2) Causes and corrective actions relating to recent mishaps.

(3) Status of flight training, proficiency and standardization.

(4) Effectiveness of quality control.

(5) Adequacy of supervision, personnel, safety equipment, or ground facilities.

(6) Dissemination of safety literature.

(7) Physiological and psychological aspects pertaining to aviation safety.

(8) Unit personnel opinion poll of the unit's safety posture and a comparison to prior years. Consider inclusion of instances of noncompliance, intentional or not, with prescribed practices or instructions.

(9) Results recorded and submitted to the CO, who must prescribe required corrective action. The FSO must monitor corrective action and report uncorrected items in subsequent surveys.

c. Health, Safety and Work Life Service Center, Safety and Environmental Health Division (CG HSWL SC (se)) Inspections. HSWL SC (se) provides SEH services to aviation units for non-aviation safety programs. This support includes both on and off-duty safety. HSWL SC (se) personnel conduct periodic unit safety program inspections that concentrate on environmental, OSH, facility safety and ground safety concerns.

d. Accessing Recorded Aircraft Data. Coast Guard aircraft are equipped with Aircraft Data Storage Units (DSU) and Voice and Flight Data Recorders (VFDR) to provide voice, flight, and aircraft systems data to aid Coast Guard analysis and investigation boards with determining aviation mishap causal factors. In addition to the VFDR, Coast Guard aircraft have non-volatile memory storage systems called DSU/ Flight Data Acquisition Units (FDAU). The DSU/FDAU records a mirror copy of the flight data (minus audio) that is stored in the VFDR. The DSU/FDAU provides an alternate means of removing the flight data from the aircraft without removing the VFDR and subsequently grounding the aircraft for maintenance. Since these units continue to record data when power is applied to the aircraft, power must be interrupted from these systems after the completion of flight to safeguard critical flight data.

(1) VFDR Program Management. Commandant (CG-1131) manages the Coast Guards VFDR program. The VFDR system hardware and products derived from it (i.e., voice data, flight data, written transcripts, and animations) must be handled per the Privacy Act and this Manual. Raw flight data and animations made solely from flight recorder data are not exempt from public release, provided they do not contain privileged safety information (e.g., Mishap Analysis Board (MAB) opinions, speculation or conclusions). While transcripts of the relevant portions of the cockpit voice recordings are not exempt from public release, the actual cockpit voice recordings and the names of the individuals whose voices are captured must be safeguarded due to privacy concerns and thus not disclosed. Audio downloading is not authorized for unit-level mishaps without specific approval from Commandant (CG-1131).

(2) VFDR Program Guidance. Aviation Logistic Center (ALC) maintains the Aircraft Flight Data Users Process Guide (PG-85-00-1560-A) which details the handling procedures for and administrative aspects of VFDR and DSU/FDAU usage. Commandant (CG-1131) must coordinate with the investigating body to determine what information from the DSU/FDAU and/or VFDR is needed. All events are handled on a case-by-case basis as the VFDR and/or DSU/FDAU could contain classified communications and must be handled accordingly. When in doubt assume the information is classified until proven otherwise. The ALC Aircraft Flight Data Users Process Guide can be found on the Technical Manual Application Systems (TMAPS) system. Under Technical Manuals, search for the Aircraft Flight Data Users Process Guide, Publication Number PG-85-00-1560-A.

(3) Class A and Class B Mishap Analysis. If an actual or potential Class A or Class B mishap event occurs, the unit Flight Safety Officer (FSO) or senior permanent mishap board member must secure the VFDR and FDAU/DSU and follow the procedures outlined in the ALC Aircraft Flight Data Users Process Guide. Commandant (CG-1131) determines on a case-by-case basis who is permitted to access the data. ALC coordinates direct delivery of requested flight data to the MAB.

(4) Class C, D, and E Mishap Analysis. When a Class C, D, or E mishap occurs in which flight data is desired to support the safety analysis, the unit FSO or senior permanent mishap board member should facilitate the removal and securing of the flight data storage units per the procedures outlined in ALCs Aircraft Flight Data Users Process Guide, and await Commandant (CG-1131) authorization to use the VFDR or DSU/FDAU downloads for analysis. The scope and use of the VFDR or DSU/FDAU download are handled on a case-by-case basis, with Commandant (CG-1131) serving as the final approval authority for creation of all VFDR and DSU/FDAU related products.

(5) Engineering Analysis. If the VFDR or DSU/FDAU data is desired to support an engineering analysis, the unit must remove the VFDR or DSU/FDAU memory card from the aircraft to preserve the data. Units must follow the procedures outlined in the ALC Aircraft Flight Data Users Process Guide. These requests are handled on a case-by-case basis by ALC, or in special circumstances, under pre-arranged MOUs between Commandant (CG-1131) and the requesting unit.

(6) Other Analyses and Investigations. Requests to access recorded aircraft voice, flight, and systems data for purposes not described above must be submitted to Commandant (CG-1131) who coordinates aviation Tri-P (Commandant CG-711/41/1131) case-by-case review and consideration. ALC coordinates direct delivery of releasable flight data to approved requestors.

4. Aviation Safety Promotion.

a. Aviation Mishap Response Training. The unit's Mishap Response Plan (MRP) must provide guidance ensuring effective completion of the numerous time-critical tasks resulting from a unit mishap. Primary and alternate Permanent Mishap Board (PMB) members and corresponding duties must be clearly identified prior to initiation of any actual or simulated mishap response activities. The following annual training requirements must be met:

(1) PMB members and their alternates must receive annual training on their responsibilities after a mishap. The training should emphasize preservation of evidence, proper mishap documentation, mishap site hazards, post mishap responsibilities/duties and notification priorities.

(2) The MRP must be drilled or practiced annually by simulating a mishap and then accomplishing all the resulting required actions. It is recommended the unit alternate between tabletop and field drills to practice the MRP. Unit response and the MRP's effectiveness should be evaluated. Units are encouraged to periodically activate the MRP to analyze Class C, D, and E mishaps to meet annual training and drill requirements.

b. Aviation Safety Stand Down. Aviation units must discontinue their regular work routine of all shifts for at least one workday each calendar year to promote safety through training, awareness and enhancement of the command safety culture. This training can include some topics applicable to all hands but must remain primarily focused on enhancement of the unit's aviation SMS. Units are encouraged to sponsor external Coast Guard, military or other professional safety or aviation presenters to increase the relevance and effectiveness of the event. The stand down can coincide with the post-holiday or end-of-summer events. Units should consider collecting input for or delivering results from the unit's most recent Aviation Safety Survey. In addition to the annual safety stand down, units are encouraged to conduct brief stand down events or operational pauses focused on sharing lessons learned from a recent mishap or string of mishaps.

c. Aviation Operational Hazard (OPHAZARD) Awareness Training. An OPHAZARD is any condition that affects or might affect the safety of Coast Guard aircraft, personnel or equipment. Aviation units must comply with initial and annual OPHAZARD awareness training requirements detailed in Reference (d). Additional OPHAZARD awareness training requirements are detailed below:

(1) OPHAZARD awareness training must include mission-specific hazards (e.g., Aviation Special Missions, shipboard deployments, etc.).

(2) OPHAZARD awareness training must be made accessible to transient aircrews (e.g., CG Portal, email, telephonic brief, etc.) to provide awareness of local and mission-specific hazards during flight planning activities.

d. Crew Resource Management (CRM) Training. CRM is the effective use of all available resources for flight crews to assure a safe and efficient operation. Designated pilots, aircrew and selected non-aviation personnel who routinely fly or perform duties aboard Coast Guard aircraft (e.g., Health Services Technicians, Aviation Mission Specialists (AMS), etc.) must comply with the CRM training requirements detailed in Reference (c). Additional CRM training requirements are detailed below:

(1) CRM should be taught in small groups, preferably fewer than 30 individuals, to facilitate inter-group participation. CRM concepts require interpersonal interactions and discussions with actual case studies. A lecture-style presentation of the material does not support effective CRM instruction.

(2) CRM Refresher facilitators are permitted access to selected mishap records upon written request to Commandant (CG-1131), or can receive case study assistance from a unit FSO.

(3) Commands are encouraged to consider the time requirement when scheduling CRM training and invite contractor personnel where appropriate.

e. Maintenance Resource Management (MRM) Training. Aviation Engineering Officers (AEO), maintenance officers and designated aircrew must comply with the

MRM training requirements detailed in Reference (c). Additional MRM training requirements are detailed below:

(1) MRM principles should be taught in small groups, preferably fewer than 30 individuals, to facilitate maximum inter-group participation. MRM concepts require interpersonal interactions and discussions with actual case studies. A lecture-style presentation of the material does not support effective MRM instruction.

(2) MRM Refresher facilitators are permitted access to selected mishap records upon written request to Commandant (CG-1131), or can receive case study assistance from a unit FSO.

(3) Commands are encouraged to consider the time requirement when scheduling MRM Refresher training and invite contractor personnel where appropriate.

f. Flight Safety Officer (FSO) Training.

(1) FSO Selection and Assignment. FSO candidates are screened and recommended for assignment through an advanced education selection panel. Final FSO billet assignments are managed by PSC-OPM-3. Annual FSO selection criteria and guidance is published via a separate advanced education solicitation message. Fully designated FSOs and personnel awarded the FSO competency (AVS02) are exempt from this screening process.

(2) Initial FSO Training. Fully-designated FSOs must complete a Commandant (CG-1131) approved FSO Performance Qualification Standard (PQS), be a qualified CRM refresher and LHSO instructor and complete one of the following courses of study:

(a) The Coast Guard's FSO Initial Course (100276) and the Coast Guard's Advanced Mishap Analysis and Reporting Course (100121),

(b) The Navy/Marine Corps Aviation Safety Officer Course (341227) in Pensacola, FL - to meet this requirement, Course (341227) must have been completed while serving in the U.S. Coast Guard, or

(c) A Commandant (CG-1131) approved course.

(3) Recurrent FSO Training. Designated FSOs must complete Commandant (CG-1131) approved recurrent Aviation Safety Standardization Course (500609) to maintain proficiency and readiness to serve in billeted FSO positions. This course includes annual CRM refresher and LHSO instructor training.

(4) FSO Competency. Officers that have completed Initial FSO Training and have served a minimum of two years as a designated unit FSO are eligible for the FSO competency (AVS02).

g. Aviation Safety Science Post-Graduate Education Program. The Aviation Safety Science Post-Graduate Education Program is an 18-24 month Master of Science degree program that equips graduates with expertise in a wide range of advanced aviation safety subjects. Traditional curricula of approved education programs include aircraft mishap investigation, human factors, occupational safety, system safety, safety management systems, industrial hygiene, ergonomics, research methods, and statistical analytics. Selectees of the program should expect a follow-on assignment to important aviation safety management positions (e.g., Commandant (CG-1131), ATC, ALC, or US Navy School of Aviation Safety, etc.).

h. Aviation Safety Command Training. Aviation Commanding Officers and Executive Officers must complete one of the following courses of study prior to the assumption of command cadre duties or as soon as practicable thereafter:

(1) The Coast Guard's Aviation PCO/PXO (A-PCO/PXO) Course (501446),

(2) The Navy/Marine Corps Aviation Safety Command Course (341228) in Pensacola, FL - to meet this requirement, Course (341228) must have been completed while serving in the U.S. Coast, or

(3) A Commandant (CG-1131) approved course.

These courses shall provide the tools and techniques to ensure that leaders are equipped to oversee effective and successful aviation safety programs. The Safety portion of the PCO/PXO course curriculum is based on the core safety policy, risk management, assurance and promotion elements present in top performing unit SMS. The course also prepares attendees to assume the key roles and responsibilities of senior unit PMB members

i. Aviation Safety Competencies.

(1) Advanced Aviation Safety Specialist. Officers who have completed the Aviation Safety Science Post-Graduate Education Program are eligible for the Advanced Aviation Safety Specialist competency (AVISAFSP).

(2) Mission Assurance Safety Force. All qualified Coast Guard members who complete Advanced Mishap Analysis and Reporting Course (100121) are eligible for the Mission Assurance Safety Force competency (MSAF). This competency expires five years from the completion of AMARC or the participation in a MAB.

(3) Aviation Safety Examiner. Qualified Coast Guard aviators who have successfully completed the Aviation Safety Examiner training and assisted with an Aviation Safety are eligible for the ASE competency (ASE01). This examiner training may be completed at the Aviation Safety Standardization Course (500609) or other CG-1131 approved training.

(4) Crew Resource Management (CRM) Refresher Instructor. Qualified Coast Guard aviators who have successfully completed the CRM refresher training and are serving in a billeted FSO position at an aviation unit are eligible for the CRM competency (AVI04). CRM refresher instructor training is obtained at the Aviation Safety Standardization Course (500609). This competency expires two years from the date of the course attendance.

(5) Laser Hazard Safety Officer (LHSO). Qualified Coast Guard aviators who currently serve in a billeted FSO position at an aviation unit are eligible for the LHSO competency (AVI05). LHSO training is obtained at the Aviation Safety Standardization Course (500609). This competency expires two years from the date of the course attendance.

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must:

a. Develop Coast Guard policy consistent with DHS policy regarding aviation safety. Inform Assistant Commandants, PMs and Operational Commanders (Area, District and unit COs) of aviation safety policies and programs.

b. Develop, recommend and monitor SMS policies and procedures for implementation by Aviation Platform and System Managers, Facility Managers and Operational Commanders (Area, District and unit COs). Provides agency guidance in developing and implementing SMS for aviation programs.

c. Oversee Class A and B aircraft mishap analyses, and through the Commandant Safety Board (CSB), report and forward recommendations to appropriate action offices.

d. Manage a MRP process for accidents and serious incidents that includes mechanisms to notify DHS and NTSB within 24 hours as required by Chapter 3, and FAA and next of kin in a timely manner.

e. Review standards and guidelines of federal, state, and civil aviation organizations relating to aviation safety. Evaluate the applicability, suitability and feasibility of Coast Guard adoption, including the related impact on field units. Establish criteria for the conduct of aviation SMS evaluations within the agency. Initiate and sponsor research and development projects, acquisition of equipment and enhancements to training and procedures that promote loss control and improve operational safety in the future.

f. Establish an aviation SMS that is interoperable with DHS and external stakeholders. Support development of a DHS aviation safety reporting system.

g. Ensure aircraft mishaps are reported and investigated. Produce and publish the annual aviation safety report and other mishap statistical presentations.

h. Establish and maintain process controls to ensure application of all Coast Guard aviation safety policies and procedures, including those defined by SMS.

i. Establish and maintain information that describes all safety policies, objectives, processes, procedures, interactions, and SMS outputs.

j. Assign a representative to serve as liaison for all mishaps reportable to the NTSB as directed in Reference (e).

k. Identify an aviation program management office and provide resources for the assignment, education and training of personnel, to include designating, in writing, an aviation safety manager.

2. Chief, Aviation Forces (CG-711). Chief, Aviation Forces (CG-711) must:

a. Serve as the CRM Program Manager (PM) as described in Reference (c).

b. Serve as the Aviation Forces representative on Commandant's Safety Boards (CSB), as required.

c. Coordinate Coast Guard Aviation activities through the DHS Senior Aviation Management Official (SAMO) while serving as the Coast Guard Aviation Forces representative on Interagency Committee for Aviation Policy (ICAP).

3. Chief, Aeronautical Engineering (CG-41). Chief, Aeronautical Engineering (CG-41) must:

a. Serve as the MRM PM as described in Reference (c).

b. Serve as the Aeronautical Engineering representative on the Aviation CSB.

c. Serve as the Coast Guard Aeronautical Engineering representative on the ICAP.

4. Chief, Safety Program Management (CG-1131). Chief, Safety Program Management (CG-1131) must:

a. Consult with Commandant (CG-113), Commandant (CG-1132), Commandant (CG-41), and Commandant (CG-711) on issues pertaining to aviation programs. Advise Commandant (CG-11), Commandant (CG-41), and Commandant (CG-711) regarding resources required to maintain a strong Coast Guard aviation SMS.

b. Develop, recommend and monitor SMS policies and procedures for implementation by Aviation Platform and System Managers, Facility Managers and Operational Commanders (Area, District and unit COs).

c. Ensure Office Chiefs, PMs and Operational Commanders (Area, District and unit COs) are kept fully informed of aviation safety policies and programs.

d. Interface with other PMs to ensure aviation safety is given primary consideration in all aviation decision making processes. Ensure that system safety, risk assessment and RM are incorporated as an integral part of the decision making process. Regularly review and analyze aviation risks for policy adjustments to facilitate RM and loss control. Develop and promote integration of RM and loss control information into operational safety.

e. Conduct Aviation Safety Standardization assessments of air stations to enhance unit safety posture, share safety best practices, and garner feedback on the effectiveness of Commandant (CG-113) support. Advise and assist responsible PMs to correct deficiencies noted during aviation assurance activities.

f. Ensure all mishaps are analyzed to determine causal factors and recommend corrective actions needed to control hazards and prevent future mishaps. Propose Commandant MAB members to the Aviation CSB following major aviation mishaps, hazards or events.

g. Provide a Commandant (CG-1131) advisor for MAB on-site guidance and support from initial convening order until delivery of the final signed Mishap Analysis Report (MAR) and supporting appendices, enclosures and technical reports. Coordinate with responsible organizations and offices to promptly resolve critical safety deficits revealed during the mishap analysis process.

h. Serve as the Aviation Safety representative and coordinate activities of the Aviation CSB. Facilitate review and adjudication of aviation mishap MAB reports, chain of command endorsements, and any other relevant post-mishap analyses and investigations. Submit CSB findings and recommended final decisions and directed actions to Commandant (CG-11), Deputy Commandant for Mission Support (DCMS), and Deputy Commandant for Operations (DCO), and Vice Commandant of the Coast Guard (VCG) approval. Disseminate VCG final decisions and directed actions.

i. Participate as a member of the Aircraft Configuration Control Board (ACCB).

j. Maintain the master files of all Freedom of Information Act (FOIA) requests for Coast Guard aviation mishap information.

k. Serve as force manager for FSO billets. Oversee and coordinate selection, assignment and training of FSOs in coordination with the Officer Personnel Management Division (PSC OPM), FORCECOM FC and field units. Facilitate mentorship of officers assigned to FSO billets.

l. Manage safety training for COs, FSOs and other aviation personnel.

m. Maintain liaison with other military safety centers and civilian aviation safety organizations. Authorize dissemination of Coast Guard mishap information to other services (U. S. and Foreign) to enhance mishap prevention efforts. Exchange mishap information with other agencies and organizations having similar aircraft, equipment

and missions to share information and research new avenues of RM and loss control per Reference (e).

n. Serve as the Coast Guard Aviation Safety representative on the ICAP.

o. Coordinate with Coast Guard Auxiliary staff and appropriate PMs to assist with the management of the Auxiliary Aviation SMS.

5. Chief, Safety Assurance and Risk Reduction Division (CG-1132). Chief, Safety Assurance and Risk Reduction Division (CG-1132) must:

a. Review and evaluate Coast Guard program operational requirements to ensure effective integration of system safety and risk management.

b. Maintain liaison with other Coast Guard programs (e.g., Commandant (CG-1B3)) to ensure that systems safety, risk assessment and risk management are considered in decision making processes.

c. Serve as the technical authority for risk management and associated training (e.g., CRM and MRM) as directed in Reference (c). Coordinate and support systems for field reporting of CRM and MRM events.

d. Design and develop database management and analysis systems that: a) identify high risk areas requiring immediate resolution; b) identify leading indicators for surveillance activities; and c) prioritize risk management activities.

e. Manage the mishap database design, implementation and effectiveness. Analyze mishap data for trends/patterns in order to identify enterprise-level leading indicators of high-risk Coast Guard operations. Based on quantitative data, initiate comprehensive measures to control or eliminate unsafe practices.

f. Maintain mishap databases to track recommended and directed actions.

g. Design e-tools for use by field units to enable measurement of safety program effectiveness and safety culture norms.

h. Manage, direct, and coordinate analysis aspects (e.g., use of DoD Human Factors Analysis and Classification System (HFACS)) of the Coast Guard mishap response process.

i. Disseminate information on emerging operational hazards and recommendations for loss control.

j. Conduct quality assurance activities to gauge compliance with established policies, procedures and programs.

k. Design, develop and maintain data management and analysis processes to support Coast Guard SMS.

6. Force Readiness Command Training Division (FC-T). Force Readiness Command Training Division (FC-T) must:

   a. Develop and implement Coast Guard CRM and MRM training per FORCECOM SOPs. Any tasks related to the development and implementation of training conducted by FORCECOM must not conflict with FORCECOM SOPs located at: http://www.forcecom.uscg.mil/Our-Organization/FORCECOM-DIVISIONS/Training/Training-SOP/.

   b. Provide a representative to serve on the Aviation CSB.

7. Chief, Auxiliary Division (CG-BSX-1). Chief, Auxiliary Division (CG-BSX-1) must:

   a. Coordinate with Commandant (CG-1131) to develop and implement CRM training requirements for Coast Guard Auxiliary Aviation.

   b. Incorporate CRM initial and refresher training requirements for Auxiliary Aviation into References (f) and (g).

   c. Conduct safety assurance activities to verify that Auxiliary Aviation personnel meet the CRM initial and refresher training requirements prescribed in References (e) and (f).

8. Area and District Commanders. Area and District commanders must ensure that the provisions of this program are implemented. These commands must also review and endorse aviation mishap investigations of their subordinate commands as directed by Commandant.

9. Commanding Officer, Health, Safety and Work Life Service Center (HSWL SC). Commanding Officer, Health, Safety and Work Life Service Center (HSWL SC)) must:

   a. Provide Safety and Environmental Health support services to aviation units for non-aviation safety programs. This support includes both on and off duty safety.

   b. Conduct periodic unit inspections that concentrate on environmental, OSH, facility safety and ground safety concerns.

10. Air Station Commanding Officers and Sector Commanders with Aviation Assets. Air Station COs and Sector Commanders with aviation assets and personnel assigned must establish and implement the safety and environmental health standards and protocols described in this Manual. Additional requirements are listed below:

    a. Aviation SMS. Establish an aviation SMS and implement the aviation unit safety policy, risk management, assurance, and promotion SMS elements described in Section B of this Chapter.

    b. Aviation Safety Organization.

(1) Sector Commands. The Deputy Sector Commander (DSC) is the senior safety representative. The DSC must be designated as the Safety Officer (SO) and Chair of the unit Safety and Environmental Health (SEH) committee. The DSC is the direct supervisor of the Safety Department and Command Safety Officer (CSO).

(2) Air Stations. The Air Station Executive Officer (XO) is the senior safety representative. The XO must be designated as the SO and Chair of the unit SEH committee. The XO is the direct supervisor of the FSO.

(3) CSO/FSO Designation and Duty Limitations. Designate unit CSO/FSO(s) in writing to coordinate development, implementation and promotion of the unit's Aviation SMS. Designated CSO/FSO(s) must not participate in duties that might result in adverse administrative or punitive action. Commands must not assign CSO/FSOs duties that might result in a perceived conflict of interest or diminish a CSO/FSO's position of trust, approachability or objectivity when conducting sensitive mishap analyses and human factors deliberations (e.g., admin investigations, legal proceedings, separation boards, etc.).

(4) Operational units with single airframe type. A Safety Department should be established and a qualified FSO must be assigned. For units whose primary mission requires numerous deployments with extended days away from home station, additional FSOs may be assigned and a Safety Department Head (DH) or Command Safety Officer (CSO) designated to ensure adequate safety staffing levels are maintained. If there is only one FSO assigned, they must not serve as the Sector Safety Manager nor be assigned other duties that measurably detract from billeted FSO duties and are subject to the FSO duty limitations described in C.10.(3) above.

(5) Operational units with multiple airframe types. A Safety Department should be established and a qualified FSO must be assigned to each airframe. For units whose primary mission requires numerous deployments with extended days away from home station, additional FSOs may be assigned to ensure adequate safety staffing levels are maintained. In addition to the airframe specific FSO, an additional Safety DH or CSO should be assigned. The Safety DH or CSO may serve as the Sector Safety Manager, but must not be assigned other duties that measurably detract from billeted FSO duties and are subject to the FSO duty limitations described in C.10.(3) above.

(6) Depot/Logistic units. A Safety Department should be established and a qualified FSO should be assigned to each aircraft category. The Safety DH or CSO must not be assigned other duties that measurably detract from billeted FSO duties and are subject to the FSO duty limitations described in C.10.(3) above.

(7) Safety Department Head (DH) or Command Safety Officer (CSO). Safety DHs or CSOs should be a panel selected FSO or be a graduate of the Aviation Safety Science Post-Graduate Education Program. At a minimum, they must complete

the Advanced Mishap Analysis and Reporting Course (100121) and the yearly Aviation Safety Standardization Course (500609).

(8) Ground Safety Officer (GSO). A unit GSO shall be assigned. They shall not be assigned any additional duties that detract from their GSO duties of implementation and promotion of the unit's SEH program

(9) Safety Petty Officer (SPO). A unit SPO should be assigned. Units can designate the SPO to assist with the duties of the GSO.

(10) Aviation Medical Officer (AMO). An AMO should be designated in writing to facilitate the implementation of the Aviation SMS and participate as a member of the unit PMB and Human Factors Council (HFC).

(11) Other Safety Representatives. Consider designation of other unit members to serve in roles as shop, facility or office safety representatives.

c. Aviation Safety Boards and Committees.

(1) Safety and Environmental Health (SEH) Committee. Establish a SEH Committee and designate members in writing.

(2) Permanent Mishap Board. Establish a PMB and designate members in writing.

(3) Human Factors Council. Consider establishment of a HFC as described in Chapter 5, Section B.8 and designate members in writing. The HFC conducts deliberations and activates a HFB when required to support mission execution, resolve human factors deficiencies and protect personnel privacy. HFC membership must include an aviation medical officer.

d. Respond to Mishaps.

(1) Comply with mishap response requirements described in Chapter 3 of this Manual.

(2) Activate the unit MRP and unit PMB when a known or suspected Class A/B unit mishap occurs, when notified of a mishap in the Area of Responsibility (AOR) that could result in assignment of a Commandant MAB, or when the resources needed to conduct a local mishap analysis are beyond the scope of the unit FSO.

(3) Provide initial mishap response or analysis support to Commandant MABs, or other federal, state, local or commercial entities following aviation mishaps that occur within the unit's AOR.

e. Provide Fall Protection. Comply with fall protection requirements described in 24 and 29 C.F.R. § 1§ 1910, Occupational Safety and Health Standards. This includes implementation of a written Fall Protection Plan (FPP) and installation and use of fall protection systems. In operational settings where fall protection systems are not

available, hazard mitigation strategies designed to protect employees when working aloft at the home unit and when deployed must be identified and promulgated in the unit FPP. Appropriate hazard mitigation strategies include engineering and administrative controls that reduce personnel risks to levels deemed acceptable by the command.

11. Commanding Officers of Afloat Units with Aviation Resources. Comprehensive policy and guidance for safe and effectiveness shipboard-helicopter operations is promulgated in Reference (h). Key safety policy elements are summarized below:

    a. The cutter CO has overall responsibility for conducting safe flight operations and must be familiar with all types of flight evolutions and flight quarters staffing responsibilities.

    b. Cutter COs must solicit feedback and improvements to their aircraft MRP from embarked aircrews.

    c. Cutter COs with deployed aircraft are faced with making mission decisions involving risks to aircrews and equipment. The cutter CO must carefully weigh the urgency of each mission and assess the benefits to be gained versus the risks involved. Established policy guidelines exist to assist cutter COs in making risk-versus-gain analyses for various shipboard-helicopter missions. Refer to Chapter 1 of Reference (d) and Chapter 5 of Reference (h) for additional policy and guidance.

    d. The cutter CO assumes the role of an Air Station CO, but without the benefit of personal aviation experience. For this reason, the cutter CO must solicit and consider the counsel of the senior aviator.

    e. Mission planning for any helicopter operation must include an assessment of aircrew survivability, based on the possibility that the aircrew might be forced into a survival situation during any phase of the flight. Planning must consider whether the aircrew could be recovered within the survival time for the worst anticipated condition.

12. Deployed Senior Aviator. The deployed senior aviator must advise the CO of the host vessel or the operational commander of the deployment, on matters concerning aviation safety. For shipboard deployed aircrews, this is in addition to responsibilities defined in Reference (h).

13. Deployed Flight Safety Officer (DFSO). The Deployed Flight Safety Officer (DFSO) must be an aviation officer designated by the parent command and assigned to the deployment. Designation should be based upon the officer's professionalism, judgment and maturity. If more than two pilots are deployed together, the senior aviator is not normally be assigned as the DFSO. If the DFSO is not a formally designated FSO, the unit FSO must train the DFSO to effectively handle routine safety matters. The DFSO duties include the following:

    a. Advise the deployment senior aviator, and as appropriate, vessel CO, or the operational commander on all matters concerning aviation safety.

b. Prepare aviation mishap reports for review by the senior aviator.

c. Ensure the deployed unit has adequate aircraft mishap response and salvage plans.

d. Conduct aviation related safety training for the deployed unit's personnel with emphasis on shipboard or deployed unit emergency procedures.

14. Aviation Medical Officer (AMO). When assigned, the AMO must assist the command in aeromedical aspects of aviation safety. Flight Surgeon aviation training requirements are covered in Reference (d). AMOs must:

a. Be thoroughly trained in human factors evaluation, medical mishap response planning, medical investigation of aviation mishaps, and their role when serving as a member of the unit PMB or a MAB.

b. Participate fully in the investigation and reporting of physiological hazards, human factor hazards or any other hazard with aeromedical implications.

c. Participate in assigned local mishap analyses and, when assigned, COMDT MAB deliberations.

d. Participate in unit mishap response planning.

e. When designated, participate as an active member of the unit PMB and HFC.

f. When requested, immediately perform physical examinations and laboratory studies on individuals involved in an aviation mishap from any military service.

g. When requested, participate in salvage and recovery efforts that might result in personnel exposure to human remains.

15. Flight Safety Officer (FSO). Primary SMS duties of the FSO include:

a. Safety Policy.

(1) Act as the CO's advisor on aviation and other safety matters, ensuring compliance with SEH and aviation SMS requirements contained in this Manual. Report to the CO monthly regarding the unit's safety posture.

(2) Serve as the flight safety representative on the unit SEH committee. When applicable, represent tenant unit as a member of host facility SEH committee.

(3) Serve as the flight safety representative on the unit PMB. Coordinate with unit PMB President to prepare PMB members and alternates to respond appropriately following mishap notification. Provide and maintain individual aircraft mishap analysis kits for PMB members.

(4) Serve as the flight safety representative on the unit Flight Standards Board (FSB). Recommend protection of personnel privacy and consultation with the unit HFC when human factors deficiencies are discovered by the FSB.

(5) Serve as the flight safety representative on the unit HFC and any active HFB.

(6) Maintain the unit MRP. Annually update and exercise the MRP. Document and facilitate resolution of deficiencies discovered during MRP exercises. Consider planning for and simulation of multiple potential mishap scenarios (e.g., local, remote, cutter-based, internationally-deployed, etc.). Provide hands on training of unit aircraft to local support Fire Dept. /ARFF personnel. Units can alternate between full mishap simulations and less intrusive tabletop exercises.

(7) Maintain and periodically inventory a unit mishap analysis kit. Document plans to obtain tools, equipment, and other items not maintained in the mishap analysis kit (e.g., food, communications equipment, sanitation equipment, flood lights, breathing apparatus, etc.).

b. Safety Risk Management.

(1) Coordinate with command cadre to ensure compliance with RM requirements described in Chapter 4 and Reference (c).

(2) Implement a unit-level safety reporting program (open and anonymous) to facilitate transparent tracking and resolution of reported hazards and other unit safety concerns.

c. Safety Assurance.

(1) Complete aviation mishap reports per Chapter 3 of this Manual. Monitor and report to the CO, progress of corrective actions.

(2) Submit to the command, at least annually, a written Unit Aviation Safety Survey covering all phases of the unit's aviation operations.

(3) Maintain files of unit and other mishap reports. It is recommended that an aviation safety trend analysis be conducted, and presented to the CO on a regular basis. An annual compilation and review of mishaps and trends can be included in the aviation safety survey.

d. Safety Promotion.

(1) Routinely review, distribute, and publish relevant safety information (e.g., local or external safety newsletters, lessons learned, leading practices, etc.). Safety information should be shared using multiple delivery methods and media to assure widest dissemination to all unit personnel while reinforcing command safety commitment and priorities.

(2) Manage unit safety suggestion and incentive programs stressing individual achievement.

(3) Liaison with local area response and support personnel (e.g., other agency host facility) on aviation safety matters and to consolidate mishap prevention programs.

(4) Provide mishap response training to unit and PMB members per Section B.4.a.1 of this Chapter. PMB training must include mishap response duties prior MAB arrival including: protection of the crash site and wreckage, photographic documentation, crash site hazards, and collection of all pertinent logs and records. PMB support and analysis following minor mishaps with clear human factors implications should also be considered.

(5) Provide aviation safety stand down training per Section B.4.b of this Chapter.

(6) Provide unit OPHAZARD training per Reference (d) and Section B.4.c of this Chapter.

(7) Provide unit CRM Refresher training per Reference (d) and Section B.4.d of this Chapter.

(8) Coordinate with the Aviation Engineering department to ensure that MRM training is completed per Reference (d) and Section B.4.e of this Chapter.

(9) Provide unit Laser Hazard Safety training per Chapter 23 of this Manual.

(10) Facilitate other safety training, periodic aviation equipment/clothing inspections, survival training for unit personnel, egress training, safety training of line personnel, and physiological training.

16. Ground Safety Officer (GSO). The GSO is the aviation equivalent to the Assistant Safety Officer (ASO) position described in Chapter 2 of this Manual. In addition to the ASO responsibilities described in Chapter 2 of this Manual, aviation unit GSOs must:

a. Complete the Assistant Safety Officer/Manager Course formerly known as Unit Safety Coordinator Course (500813). Prospective GSOs should complete this training prior to assumption of duties or as soon as practicable thereafter.

b. Serve as the command's advisor and representative on SEH matters. Coordinate activities with other designated FSOs and SEH personnel to facilitate implementation of the unit's overarching SMS.

c. Liaison with District, HSWL SE (se), and Commandant (CG-113) for guidance to develop and implement applicable unit policies and programs per this Manual and applicable Coast Guard, federal, state and local SEH requirements and regulations.

d. If designated, implement the unit hazardous communication (HAZCOM) program and verify that hazardous materials (HAZMAT) management is conducted per Chapter 11 of this Manual. If another unit member/employee is designated to perform HAZCOM or HAZMAT management duties, facilitate coordination with HSWL SC (se) to ensure unit compliance.

e. Conduct annual unit safety inspections as described in Chapter 4 of this Manual.

f. Review and assist in the development of mishap response and other emergency plans and procedures.

g. Analyze, report and track non-aviation mishap reports and submit the required Mishap Reports (MISREPs) per Chapter 3 of this Manual.

h. Identify, report and correct unsafe and unhealthy work practices and conditions.

i. Coordinate unit SEH promotional activities (e.g., training, awareness, etc.).

j. Coordinate with the host command on ground safety issues where appropriate.

k. Implement safe driver and traffic safety programs (Chapter 16 of this Manual).

l. Implement office, home, off-duty, and recreational safety programs.

m. Coordinate with unit medical representatives and HSWL SC (se) to verify compliance with Occupational Medical Surveillance and Evaluation Program (OMSEP) requirements per Chapter 12 of Reference (i).

17. Salvage Officer. Aviation units must designate a Salvage Officer in writing and comply with aircraft salvage requirements described in Chapter 10 of Reference (j).

18. Supervisors. Supervisors must implement and actively promote the unit's written safety policy. Supervisors must support the safety culture elements described in Chapter 1 to sustain a safe, healthy and positive work environment.

19. Employees. Employees must:

a. Understand and comply with Coast Guard and unit-level SMS policies and applicable Tactics, Techniques, and Procedures (TTP).

b. Commit to a personal responsibility of safeguarding themselves, their fellow crewmembers and the property entrusted to their care.

c. Communicate known hazards and risks assertively, without fear of reprisal.

CHAPTER 21 AFLOAT SAFETY PROGRAM

References:

(a) Executive Order 12196 as amended, "Occupational Safety and Health (OSH) Programs for Federal Employees"
(b) Public Law 91-596, Occupational Safety and Health Act of 1970 (OSHA Act) and 29 U.S.C., §651 et seq, 29 C.F.R. §§ 1900 to 2400
(c) Risk Management, COMDTINST 3500.3 (series)
(d) Naval Engineering Manual, COMDTINST M9000.6 (series)
(e) Ordnance Manual, COMDTINST M8000.2 (series) (FOUO)
(f) Range Training Handbook Tactics, Techniques, and Procedures (TTP), CGTTP 3-30.3
(g) Ordnance Tactics, Techniques, and Procedures (TTP), CGTTP 3-30.2
(h) Coast Guard Medical Manual, COMDTINST M6000.1 (series), Chapter 12, Occupational Medical Surveillance and Evaluation Program (OMSEP)
(i) Shipboard Fire Prevention and Fire Marshal Instruction, COMDTINST 9091.1 (series)

A. Discussion.

1. Background. The afloat safety program implements proven SMS standards and protocols to reduce operational risk, eliminate preventable mishaps, and enhance mission success. Afloat safety in the Coast Guard is based on the philosophy that risk can be controlled and that mishap prevention is an inherent function at all organizational levels. This includes focusing on proactive preventive measures that integrate historical and predictive evaluation and managing known and potential hazards by addressing their specific risks to safety. Through management of risk, the mitigation of hazards, effective communication, standardization of policies and procedures, training and the diligent use of risk analysis, future incidents and accidents can be prevented to the greatest extent possible.

2. Application. Unless specified in another Chapter, the following policies outlined in this Chapter apply to all Coast Guard unit commanders operating vessels and vehicles to fulfill missions or activities. Vessels include cutters and boats operated by Coast Guard active duty and reserve members and Coast Guard Auxiliary boats operating while under approved Coast Guard orders. All Coast Guard program and support managers are subject to guidance contained within this Chapter when developing any policy or procedures, such as acquisitions, sustainment, support, configuration control, Tactics, Techniques, and Procedures (TTP), compliance activities, etc.

   a. As described in Chapter 1, Coast Guard vessels are presumed to be engaged in uniquely military operations, and are exempted by Reference (a) from compliance with Reference (b) for all crews and passengers while engaged in underway operations.

   b. While in a non-operational status i.e. moored in homeport, the unique military exemption no longer applies, and units must apply the standards contained in References (a) and (b) and 29, U.S.C., §668, "Programs of Federal Agencies," and

DHS Directive 066-01, "Safety and Health Programs," where practicable or employ alternate Occupational Safety and Health (OSH) standards that are at least as stringent as OSHA standard.

B. Program Requirements. Unit commanders operating vessels to fulfill missions or activities must implement protocols that support the safety program requirements delineated in this Manual. Additional requirements for unit commanders are listed below.

1. Afloat Safety Policy.

   a. Publish a safety policy statement that emphasizes the command's commitment to safety, risk management, and other unit-specific priorities. Include safety policy statement in other unit policies (e.g. SOP, ORGMAN, etc.) and ensure that reporting safety concerns can be reported without fear of reprisal.

   b. Safety policies must be documented in writing and readily accessible to all unit members (e.g. web access, bulletin boards, etc.). Personnel assigned to perform collateral safety duties must be designated in writing.

   c. The Executive Officer/Executive Petty Officer (XO/XPO) must be designated as the unit Safety Officer (SO).

   d. Safety policies must be openly discussed and promoted by unit leaders and supervisors during daily activities (e.g., all hands training events, briefs, etc.).

   e. Safety policies must be reviewed annually to verify accuracy and relevance.

   f. Safety policies should address Safety Culture elements (reporting culture, learning culture, just culture, informed culture, flexible culture) described in Chapter 1.

   g. Establish a Safety and Environmental Health (SEH) committee that identifies and reviews hazardous conditions, tracks abatement and control actions, and reviews unit mishap reports and mishap messages from similar units to review and implement lessons learned. See Chapter 5 of this Manual for a complete list of SEH committee duties.

2. Afloat Safety Risk Management. Unit commanders must implement the risk management procedures and protocols described in Reference (c). Units must also implement the program requirements described in Chapter 4 of this Manual to identify and control workplace hazards.

3. Afloat Safety Assurance.

   a. Unit Safety Survey. A detailed unit safety survey must be conducted annually and whenever the CO/OIC directs. This all-encompassing report from the XO/XPO to the CO/OIC should act as a *State of the Unit Safety* report. A template for this survey is available on HSWL SC website. This survey is an in-depth audit of all phases of the unit's operations involving operational/unit safety. The survey should include:

(1) Areas of potential mishap and hazard exposure.

(2) Causes and corrective actions relating to recent mishaps.

(3) Status of training, proficiency and standardization.

(4) Effectiveness of quality control procedures for maintenance and equipment PMS.

(5) Adequacy of supervision, personnel, safety equipment, or shore facilities.

(6) Dissemination of safety literature.

(7) Unit personnel opinion poll of the unit's safety posture and a comparison to prior years. Consider inclusion of instances of noncompliance, intentional or not, with prescribed practices or instructions.

(8) Results recorded and submitted to the CO/OIC, who must prescribe required corrective action. The XO/XPO must monitor corrective action and report uncorrected items in subsequent surveys.

b. Health, Safety and Work Life Service Center, Safety and Environmental Health Division (CG HSWL SC (se)) Inspections. HSWL SC (se) provides Safety and Environmental Health support services. This support includes both on and off-duty safety. HSWL SC (se) personnel conduct periodic unit inspections that concentrate on environmental, OSH, facility safety and afloat safety concerns.

c. Unit Safety Assessment Tool (USAT). USAT is a safety inspection tool, which can be customized to specific unit needs, allowing units to document self-inspections and track any deficiencies to completion. As outlined in Chapter 4 of this Manual, units shall conduct daily inspections as well as an annual formal inspection using USAT and identify any hazardous conditions. Report all unresolved hazardous conditions per Chapter 4.

d. Fire Safety and Prevention Program. A detailed unit fire safety and prevention program shall be promulgated per reference (i). Units shall conduct daily inspections of spaces for fire hazards as part of your fire safety and prevention program. Ensure that hot work is properly addressed in the fire safety and prevention program per Reference (d).

e. Firearms and Explosive Safety. A detailed unit fire safety and prevention program shall be promulgated per reference (i). Guidance on weapons and munitions specific TTP is found in References (e) and (f).

f. Confined Space Entry (CSE). Develop, implement and maintain a CSE program that meets the requirements of Reference (d) and Chapter 13 of this Manual.

g. Occupational Safety and Health Administration (OSHA) Inspectors. Except for uniquely military workplaces and operations or those where only military personnel

are employed, OSHA inspectors and evaluators are authorized per Chapter 1, Paragraphs D.1 – D.4 and Table 1-1 of this Manual to:

(1) Enter, without delay, during regular work hours, any building, installation, facility construction site, or other area, workplace or environment where work is performed by Coast Guard civilian employees or contract employees.

(2) Inspect and investigate, during regular working hours and at other reasonable times, all pertinent conditions, structures, machines, devices, equipment and materials.

(3) Privately question any civilian employee, any supervisory employee and/or any official in charge.

(4) Formally report on unsafe conditions encountered by civilian employees.

h. Accessing Recorded Data. Coast Guard cutters are equipped with electronic navigation systems that record and store navigation data. This data can be used to aid Coast Guard analysis and investigation boards with determining afloat mishap causal factors. Coast Guard boats are not currently equipped with standardized recording equipment, but some boats are equipped with Scalable Integrated Navigation System (SINS) that will record the last two hours of historical navigational tracks on the SINS card.

(1) Class A and B Mishap Analysis. If an actual or potential Class A or Class B mishap event occurs, the unit SO or senior permanent mishap board member must secure the navigational data recording, if available. MAB president should reach out to Coast Guard Navigational Center to request Automated Identification System (AIS) data.

(2) Class C and D Mishap Analysis. When a Class C or D mishap occurs in which navigation data is desired to support the safety analysis, the unit SO or senior Permanent Mishap Board (PMB) member should facilitate the removal and securing of the navigation data storage cards, if available.

4. Afloat Safety Promotion.

a. Afloat Mishap Response Training. The unit's Mishap Response Plan (MRP) must provide guidance ensuring effective completion of the numerous time-critical tasks resulting from a unit mishap. Primary and alternate PMB members and corresponding duties must be clearly identified prior to initiation of any actual or simulated mishap response activities. The following annual training requirements must be met:

(1) PMB members and their alternates must receive annual training on their responsibilities after a mishap. The training should emphasize preservation of evidence, proper mishap documentation, mishap site hazards, post mishap responsibilities/duties and notification priorities.

(2) The MRP must be drilled or practiced annually by simulating a mishap and then accomplishing all the resulting required actions. It is recommended the unit alternate between tabletop and underway drills to practice the MRP. Unit response and the MRP's effectiveness should be evaluated. Units are encouraged to periodically activate the MRP to analyze Class C and D mishaps to meet annual training and drill requirements.

b. Afloat Safety Stand Down. Conduct a safety stand down at least annually. Each unit must discontinue their regular work routine for at least one workday to focus on safety procedures and concerns. This training should include topics applicable to all hands as well as specialized training for specific groups. Consider using guest speakers from outside the command to increase the effectiveness of the training. The stand down can coincide with normal post-holiday or end of summer; or provide an opportunity to share lessons learned due to a recent mishap or gaps in training. This venue might be appropriate for garnering input and/or reporting on unit's annual USAT report. HSWL SC (se) can assist the unit in developing an effective safety stand down protocol. In addition to the annual comprehensive safety stand down, units are also encouraged to conduct brief stand down events or operational pauses focused on sharing lessons learned from a recent mishap or string of mishaps.

c. OPHAZARD Awareness Training. An OPHAZARD is any condition that affects or might affect the safety of Coast Guard personnel or equipment. Units must develop and provide initial OPHAZARD awareness training for personnel reporting aboard and annual OPHAZARD awareness training to all hands. OPHAZARD awareness training must:

(1) Include mission-specific hazards (e.g., helo-boat ops, towing, special sea detail, etc.), as well as hazards in unit's area of responsibility (shoal waters, prevailing sea conditions, etc.).

(2) Include hazards at unit's homeport/station and any location unit's regularly deploy to.

(3) Be made accessible to TDY crews (e.g., CG Portal, email, telephonic brief, etc.) to provide awareness of local and mission-specific hazards during mission planning activities. (e.g., surge-ops, non-local unit support, LEDET deployments, etc.).

d. Team Coordination Training (TCT). Mandated for all non-aviation active duty, reserve, auxiliary, and civilian personnel who contribute to the planning, conducting, and monitoring of operations. Reference (c) outlines the training requirements for TCT training requirements.

e. Missionized Safety Assurance Force (MSAF) Competency.

(1) MSAF Competency. All Qualified Coast Guard members who complete Advanced Mishap Analysis and Reporting Course (AMARC) (100121) are eligible for the Mission Assurance Safety Force competency (MSAF).

(2) This competency expires five years from the completion of AMARC or the participation in a MAB.

f. Afloat Safety Systems Post-Graduate Education Program. The Surface Safety Systems Post-Graduate Education Program is an 18-month Master of Science degree program that equips graduates with expertise in a wide range of advanced safety subjects. Selectees of the program will complete a follow-on assignment as the Afloat or the Deployable Specialized Forces Program Manager within the Safety Program Management Division, Commandant (CG-1131).

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must:

a. Develop, recommend, promulgate and monitor policies for afloat safety in consultation with appropriate program managers.

b. Recommend policies and procedures to protect the public from possible hazards of Coast Guard afloat activities.

c. Advise and assist the chain of command in correcting hazardous conditions adverse to afloat safety.

d. Maintain an active relationship with the U. S. Naval Safety Center.

e. Coordinate and convene formal Mishap Analysis Boards (MAB) on behalf of the Commandant.

f. Maintain and track all Class A and Class B mishap reports, safety recommendations, and corrective actions.

g. Monitor all Commandant level MAB directed corrective actions until completed.

h. When necessary, assign a representative to serve as liaison for all National Transportation Safety Board (NTSB) reportable mishaps.

i. Review and approve all Time Compliance Technical Orders (TCTOs), TTP, IT&E reports, as well as any SEH policy that affects the afloat safety program.

j. Provide a member on all afloat related Configuration Control Boards (CCB).

k. Participate as a member of the cutter Tripartite (Tri-P) made up of Commandant (CG-751), Commandant (CG-45) plus other key offices. Tri-P discusses cutter related SEH Health issues and determines correction action.

l. Participate as a member of the boat Tri-P made up of Commandant (CG-731), Commandant (CG-45) plus other key offices. Tri-P discusses boat related SEH issues and determines corrective action.

m. Advise and assist appropriate Program Managers (PM) to correct afloat related issues.

2. Chief, Cutter Forces (CG-751). Chief, Cutter Forces (CG-751) must:

a. Serve as the Bridge Resource Management (BRM) course manager as described in Reference (c).

b. Serve as member on the BRM review process and establish BRM training requirements for cutter forces units as described in Reference (c)

c. Serve as the Cutter Forces representative on Commandant's Safety Boards (CSB), as required.

3. Chief, Boat Forces (CG-731). Chief, Boat Forces (CG-731) must:

a. Serve as member on the TCT review process and establish TCT training requirements for boat forces units as described in Reference (c).

b. Serve as the Boat Forces representative on Commandant's Safety Boards (CSB), as required.

4. Chief, Naval Engineering (CG-45). Chief, Naval Engineering (CG-45) must serve as the Naval Engineering representative on Commandant's Safety Boards (CSB), as required.

5. Chief, Safety Program Management (CG-1131). Chief, Safety Program Management (CG-1131) must:

a. Consult with Commandant (CG-113), Commandant (CG-1132), Commandant (CG-45), Commandant (CG-731), and Commandant (CG-751) on issues pertaining to afloat safety programs. Advise Commandant (CG-11), Commandant (CG-45), Commandant (CG-731), and Commandant (CG-751) regarding resources required to maintain a strong Coast Guard afloat SMS.

b. Develop, recommend and monitor SMS policies and procedures for implementation by afloat Platform and System Managers, Facility Managers and Operational Commanders (Area, District and unit COs/OICs).

c. Ensure Office Chiefs, PMs and Operational Commanders (Area, District and unit COs/OICs) are kept fully informed of afloat safety policies and programs.

d. Interface with other PMs to ensure afloat safety is given primary consideration in all afloat decision making processes. Ensure that system safety, risk assessment and RM are incorporated as an integral part of the decision making process. Regularly review

and analyze afloat risks for policy adjustments to facilitate RM. Develop and promote integration of RM information into operational safety.

e. Ensure all mishaps are analyzed to determine causal factors and recommend corrective actions needed to control hazards and prevent future mishaps. Propose Commandant MAB members to the afloat CSB following major afloat mishaps, hazards or events.

f. Provide a Commandant (CG-1131) advisor for MAB on-site guidance and support from initial convening order until delivery of the final signed Mishap Analysis Report (MAR) and supporting appendices, enclosures and technical reports. Coordinate with responsible organizations and offices to promptly resolve critical safety deficits revealed during the mishap analysis process.

g. Serve as the Afloat Safety representative and coordinate activities of the Afloat CSB. Facilitate review and adjudication of afloat mishap MAB reports, chain of command endorsements, and any other relevant post-mishap analyses and investigations. Submit CSB findings and recommended final decisions and directed actions to Commandant (CG-11), Deputy Commandant for Mission Support (DCMS), and Deputy Commandant for Operations (DCO), and Vice Commandant of the Coast Guard (VCG) approval. Disseminate VCG final decisions and directed actions.

h. Participate as a member of the Surface Systems Configuration Control Board (SFCCB) for cutter and boat forces programs.

i. Maintain the master files of all Freedom of Information Act (FOIA) requests for Coast Guard afloat mishap information.

j. Manage safety training for afloat personnel.

6. Chief, Safety Assurance and Risk Reduction Division (CG-1132). Chief, Safety Assurance and Risk Reduction Division (CG-1132) must:

a. Review and evaluate Coast Guard program operational requirements to ensure effective integration of system safety and risk management.

b. Maintain liaison with other Coast Guard programs (e.g., Commandant (CG-1B3)) to ensure that systems safety, risk assessment and risk management are considered in decision making processes.

c. Serve as the technical authority for risk management and associated training (e.g., TCT and BRM) as directed in Reference (c). Coordinate and support systems for field reporting of TCT and BRM events.

d. Design and develop database management and analysis systems that: a) identify high risk areas requiring immediate resolution; b) identify leading indicators for surveillance activities; and c) prioritize risk management activities.

e. Manage the mishap database design, implementation and effectiveness. Analyze mishap data for trends/patterns in order to identify enterprise-level leading indicators of high-risk Coast Guard operations. Based on quantitative data, initiate comprehensive measures to control or eliminate unsafe practices.

f. Maintain mishap databases to track recommended and directed actions.

g. Design e-tools for use by field units to enable measurement of safety program effectiveness and safety culture norms.

h. Manage, direct, and coordinate analysis aspects (e.g., use of DoD Human Factors Analysis and Classification System (HFACS)) of the Coast Guard mishap response process.

i. Disseminate information on emerging operational hazards and recommendations for loss control.

j. Conduct quality assurance activities to gauge compliance with established policies, procedures and programs.

k. Design, develop and maintain data management and analysis processes to support Coast Guard SMS.

7. Force Readiness Command Training Division (FC-T). Force Readiness Command Training Division (FC-T) must:

   a. Develop and implement Coast Guard TCT and BRM training per FORCECOM SOPs. Any tasks related to the development and implementation of training conducted by FORCECOM must not conflict with FORCECOM SOPs located at: http://www.forcecom.uscg.mil/Our-Organization/FORCECOM-DIVISIONS/Training/Training-SOP/.

   b. Provide a representative to serve on Commandant Safety Boards, as required.

8. Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC). Commanding Officer, HSWL SC must:

   a. Manage and provide SEH support services for afloat safety.

   b. For cutters 210’ in length and greater – those requiring Tailored Ship’s Training Availability (TSTA/CART), conduct SMART/CART visits according to CART schedule.

   c. For cutters less than 210’ in length, conduct SMART visits based on metrics that reveal heighten hazard exposure and potential for mishap, as outlined in Ch. 4 of this manual.

d. Assist Commandant (CG-113) on review of all TTPs, IT&E plans, as well as any SEH policy that affects afloat safety.

e. Advise Commandant (CG-113) of all safety deficiencies that have fleet wide implications.

f. Assist Commandant (CG-113) with review of all TCTO's relating to boats and cutters and provide comment.

9. Area and District Commanders. Area and District Commanders must:

a. Review and endorse afloat MARs as directed.

b. Ensure that the provisions of this program are implemented.

10. Afloat Commands.

a. Afloat SMS. Establish an afloat SMS and implement the afloat unit safety policy, risk management, assurance, and promotion SMS elements described in Section B of this Chapter.

b. Afloat Safety Organization.

(1) Executive Officer/Executive Petty Officer (XO/XPO). The cutter XO/XPO is the senior safety representative. The XO/XPO must be designated in writing as the SO and Chair of the Unit Safety and Environmental Health (SEH) committee.

(2) Collateral Duty Assistant Safety Officer. Designate in writing an Assistant Safety Officer to assist the XO/XPO in implementing the SMS elements described in Section B of this Chapter.

(3) Assign other duties as necessary to include:

(a) OMSEP Coordinator per Reference (f).

(b) Respiratory Protection Coordinator per Chapter 9 of this Manual.

(c) Asbestos Management Coordinator per Chapter 12 of this Manual.

(d) Lead Hazard Management Coordinator per Chapter 28 of this Manual.

c. Afloat Safety Boards and Committees.

(1) Establish a SEH Committee and designate members in writing.

(2) Establish a PMB and designate members in writing.

d. Respond to Mishaps.

(1) Comply with mishap response requirements described in Chapter 3 of this Manual.

(2) Activate the unit MRP and unit PMB when a known or suspected Class A/B unit mishap occurs, when notified of a mishap in the Area of Responsibility (AOR) that could result in assignment of a Commandant MAB, or when the resources needed to conduct a local mishap analysis are beyond the scope of the unit PMB.

11. Sector Commanders. Sector Commanders must:

a. Review and endorse afloat MARs as directed.

b. Review mishap reports of subordinate commands.

c. Ensure that the provisions of this program are implemented.

d. Respond to Mishaps. It is likely that the majority of afloat mishaps will occur primarily at subordinate units, however there may be incidents where sector personal and assets operated by sector personal are involved in an afloat mishap i.e. vessel security boarding team or marine inspector boarding. Sectors must:

(1) Comply with mishap response requirements described in Chapter 3 of this Manual.

(2) Activate the unit Mishap Response Plan (MRP) and unit PMB when a known or suspected Class A/B unit mishap occurs, when notified of a mishap in the AOR that could result in assignment of a Commandant MAB, or when the resources needed to conduct a local mishap analysis are beyond the scope of the unit PMB.

12. Assistant Safety Officer.

a. Act as the XO/XPO's advisor on safety matters, ensuring compliance with SEH and aviation SMS requirements contained in this Manual.

b. Serve as a safety representative on the unit PMB. Coordinate with unit PMB President to prepare PMB members and alternates to respond appropriately following mishap notification.

c. Maintain the unit MRP. Annually update and exercise the MRP. Document and facilitate resolution of deficiencies discovered during MRP exercises. Consider planning for and simulation of multiple potential mishap scenarios (e.g., local, remote, cutter-based, internationally deployed, etc.). Units can alternate between full mishap simulations and less intrusive tabletop exercises.

d. Maintain and periodically inventory a unit mishap analysis kit. Document plans to obtain tools, equipment, and other items not maintained in the mishap analysis kit (e.g., food, communications equipment, sanitation equipment, flood lights, breathing

apparatus, etc.). A list of suggested items for a unit mishap analysis kit is included on HSWL (SC)'s Portal site.

e. Maintain files of unit and other mishap reports. It is recommended that a unit safety trend analysis be conducted, and presented to the CO on a regular basis. An annual compilation and review of mishaps and trends can be included in the unit safety survey.

f. Routinely review, distribute, and publish relevant safety information (e.g., local or external safety newsletters, lessons learned, leading practices, etc.). Safety information should be shared using multiple delivery methods and media to assure widest dissemination to all unit personnel while reinforcing command safety commitment and priorities.

g. Manage unit safety suggestion and incentive programs stressing individual achievement.

h. Provide mishap response training to unit and PMB members per Section B.4.a. of this Chapter. PMB training must include mishap response duties prior MAB arrival including: protection of the mishap site and wreckage, photographic documentation, mishap site hazards, and collection of all pertinent logs and records. PMB support and analysis following minor mishaps with clear human factors implications should also be considered.

13. Supervisors. Supervisors must:

a. Implement and actively promote the unit's written safety policy. Supervisors must support the safety culture elements described in Chapter 1 to sustain a safe, healthy and positive work environment.

b. Inspect workspaces daily to identify hazardous conditions

c. Ensure hazardous conditions are reported and abated. Imminent danger conditions must be corrected immediately.

14. Employees. Employees must:

a. Understand and comply with Coast Guard and unit-level SMS policies and applicable Tactics, Techniques, and Procedures (TTP).
b. Commit to safeguarding themselves, their fellow crewmembers and the property entrusted to their care.
c. Communicate known hazards and risks assertively, without fear of reprisal.

CHAPTER 22 IONIZING RADIATION SAFETY PROGRAM

References:

(a) Coast Guard Medical Manual, COMDTINST M6000.1 (series)
(b) Title 10 C.F.R. §§ 19, 20, 30, 31, 33, 35
(c) U.S. Army Dosimetry Center Customer Handbook (current version)
(d) Management and Control of Diagnostic, Therapeutic, and Medical Research X-Ray Systems and Facilities, U.S Army Technical Bulletin Medical 521
(e) Navy RADIAC User's Manual, SE700-AA-MAN-100/RADIAC, Volume 1, Revision 3
(f) Navy RADIAC, Self-Indicating Casualty Dosimeter, IM-270/PD, Operation Instructions
(g) USCG Countering Weapons of Mass Destruction (CWMD) Manual, COMDTINST M3400.51 (FOUO)
(h) Radiation Safety Tactics, Techniques, and Procedures (TTP), CGTTP 4-11.14

A. Discussion. This Chapter provides general program management and authorities for the Coast Guard Ionizing Radiation Safety Program. Compliance with this Chapter as well as applicable parts of References (a) to (g) ensures that the potential for ionizing radiation exposures is minimized and that materials and systems are appropriately used and safeguarded. Reference (h) provides guidance for Units' development of radiation safety plan.

1. Background. When ionizing radiation passes through material such as air, water, or living tissue, it deposits enough energy to produce ions by breaking molecular bonds and displace (or remove) electrons from atoms or molecules. This electron displacement may lead to changes in living cells. Given this ability, ionizing radiation has a number of beneficial uses, including treating cancer or sterilizing medical equipment. However, ionizing radiation is potentially harmful if not used correctly, and high doses may result in severe skin or tissue damage; birth defects; illness and death. In the Coast Guard, equipment or devices capable of generating ionizing radiation include: diagnostic medical or dental radiological X-Ray systems; industrial radiographic equipment; and X-Ray fluorescence (XRF) equipment for testing of lead paint and non-destructive assessment of aircraft parts. Coast Guard members who may be exposed to radiological materials in the course of their operations include: Marine Safety Inspectors, Port-Safety Control Boarding Teams, Container Inspectors and Emergency Response personnel. Others are members at Yorktown Training Center, Coast Guard Yard and Coast Guard Aviation Logistics Centers who may be exposed through use of non-destructive testing equipment using X-Rays; as well as X-Ray technicians in Coast Guard clinics.

2. Application. This Chapter does not apply to:

   a. Individuals exposed to ionizing radiation when used for the diagnosis or treatment of medical or dental conditions;

   b. Individuals exposed to common low level consumer products such as smoke detectors or unlicensed materials; and,

c. Situations where procedures are initiated after an accident, incident, or attack in which a radiological or nuclear device is used; however, the provisions of this Chapter, insofar as they are feasible, must remain in effect after such an incident.

3. Interagency Agreement (IAA) and/or Memorandum of Understanding (MOU).

a. The Coast Guard has IAA with United States Department of Navy (DON) for provision and calibration of Radioactivity, Detection, Indication and Computation (RADIAC) equipment and MOU with United States Army for dosimetry services; and provision of radiological safety survey of medical and dental X-Ray equipment. Under the RADIAC IAA Part A, Naval Sea Systems Command (NAVSEA):

(1) Provides and maintains RADIAC equipment per References (e) and (f).

(2) Units with RADIAC equipment must ensure that there is an authorized RADIAC equipment allowance in place prior to use.

(3) Per References (e) and (f), units requesting establishment, changing and/or de-establishing RADIAC equipment allowance must route their request through the proper chain of command to Commandant (CG-113), for industrial use or Commandant (CG-721) for Chemical, Biological, Radiological, and Nuclear (CBRN) response equipment.

(4) Format and procedure for requesting equipment allowance is per Reference (e)

(5) Proper execution of the IAA requires completion of Part B which provides the means of funding for services.

b. The Coast Guard also have an IAA with the U.S. Army Test, Measurement, and Diagnostic Equipment Activity (USATA) to provide the following dosimetry services:

(1) Supply TLDs quarterly to personnel who operate dental and medical X-Ray equipment while assigned to Coast Guard medical or dental clinics.(2) Process and evaluate all TLDs. (3) Enter results into central dosimetry records repository (CDRR).

(4) Forward a copy of the result to the units.

(5) Provide a quarterly automated dosimetry record (ADR).

(6) Provide an annual Nuclear Regulatory Commission Form 5 located at: http://www.nrc.gov/reading-rm/doc-collections/forms/.

(7) Upon request, a complete radiation exposure history for any individual.

c. The Coast Guard has a MOU with the U.S. Army Public Health Command (USAPHC) to:

(1) Provide radiological safety survey, radiation use evaluations and additional support for assuring radiographic quality assurance for all Coast Guard medical and dental facilities utilizing diagnostic radiographic equipment.

(2) Make recommendations for modifications or changes in equipment and operating procedures that, when implemented, will reduce patient and occupational exposures.

(3) Provide reports to the units.

B. Program Requirements.

1. Occupational Exposure.

a. Exposure to ionizing radiation must be reduced to levels as low as reasonably achievable (ALARA); or below Occupational Exposure Limit (OEL) as published in Title 10 C.F.R. Part 20; Subpart C.

b. Reference (g) provides radiological Operational Exposure Guidelines (OEGs) for units conducting CBRN response operations based on the National Council on Radiation Protection (NCRP) and DoD publications.

c. Declared Pregnant Worker.

(1) An individual performing duties that require monitoring for radiation exposure must inform (declare) their unit's designated healthcare representative in writing, of their pregnancy and estimated date of conception (month and year). The declaration remains in effect until the declared pregnant woman withdraws the declaration in writing or is no longer pregnant.

(2) The declaration statement must be filed in the individual's health record per References (a) and (c).

(3) Action must be taken for a declared pregnant individual to limit the dose to less than 500 millirems (5 millisieverts) total effective dose equivalent during the entire gestation period. Exposure must not exceed 50 millirems (0.5 millisieverts) per month.

(4) If it is determined there is a potential for total effective dose to the embryo or fetus in excess of 500 millirems (5 millisieverts) for the gestation period, the pregnant individual must be reassigned from specific tasks causing the exposure. Reassignment must entail no loss of job security or economic penalty to the pregnant worker.

(5) Pregnancy is not a disqualification for participation in CG Maritime Radiation Detection Program in Reference (g) where radiation doses are controlled to a value that does not exceed above thresholds.

2. Exposure Assessment.

   a. Dosimetry. Units whose members might be occupationally exposed to ionizing radiation with a potential to exceed 10 percent of exposure limits as published in Reference (c) must be enrolled in a Dosimetry program; and must appoint a radiation health representative to receive, distribute; and ensure Thermo Luminescent Dosimeters (TLDs) are collected and mailed back for analysis per Reference (c).

   b. Exposed Individuals. Except as noted in Paragraph B.1.c, individuals who, in the course of their duties, might be occupationally exposed to ionizing radiation must be provided dosimetry and, as necessary, bioassays when it is determined by a radiation protection professional (i.e. health physicist) that there is potential to exceed 10 percent of exposure limits as published in Reference (c); or there is reason to believe that exposure to radioactive material is probable, and monitoring will be beneficial in preventive measures and medical treatment of future inquiries.

   c. Dental Personnel. Dental personnel are not required to wear individual dosimeter badges unless deemed necessary by the radiation health representative.

   d. New Ionizing Radiation Systems. When dosimetry is recommended for a new ionizing radiation system, the acquiring unit must select a radiation health representative from among the system personnel. The radiation health representative must notify HSWL SC (se) to coordinate enrollment of the new system in the Army's dosimetry program.

3. Unit Radiation Health Representative (RHR)/Radiation Safety Officer (RSO). Units with ionizing radiation producing equipment must appoint a RHR/RSO who must ensure the requirements of this Manual and References (a) through (g) are implemented.

4. Medical Surveillance. Per Chapter 12 of Reference (a), and except as noted in paragraph B.1.c, individuals who are exposed at or above Coast Guard Medical Surveillance Criteria of 5 millisieverts/year (mSV/yr) must be enrolled in the Coast Guard Occupational Medical Surveillance Program (OMSEP). Reference (a) provides the policy and instructions for enrollment in OMSEP.

5. Training.

   a. Per Reference (b), personnel engaged in work in which they may be exposed to ionizing radiation must be trained in radiological controls and radiation safety practices and protective measures.

   b. Coast Guard Radiation Safety Officers (RSO) must have at least 40 hours of formal radiation safety training prior to assuming the responsibilities of RSO. The training must include biological effects from radiation; specific hazards; emergency procedures; detection and measurement of radioactivity; calculations of doses; and good radiation program practices for storage, monitoring, decontamination and disposal.

c. Unit RHR/RSO must be trained in basic knowledge of radiation safety practices and procedure; as well as the unit operational procedures where the radiation producing equipment is used. The Radiation Safety course in SkillPort, Coast Guard Portal (Training and Education), provides basic training on radiation safety.

6. Equipment Inventory. All units with radiation producing equipment must maintain an inventory to include equipment type, location, calibration dates and model or series number.

7. X-Ray Systems.

   a. Medical and Dental X-Ray systems. Units with medical and dental x-ray equipment must ensure that radiation safety and compliance surveys are conducted in support of quality assurance efforts.

   b. Industrial X-Ray Systems. Units with industrial x-ray systems must ensure that systems are registered per respective state requirements; properly calibrated and maintained according to manufacturer's instructions.

8. Other Ionizing Producing Equipment or Systems.

   a. Labeling. Ensure that ionizing producing equipment or systems are properly labeled;

   b. Calibration and use. Ensure that ionizing producing equipment or systems are calibrated and used according to manufacturer's instructions; and

   c. Shielding. Ensure ionizing producing equipment or systems are properly shielded during use and storage.

9. License. Units operating equipment containing an ionizing radiation source or capable of producing ionizing radiation under manufacturer's general license, must adhere to the manufacturer's instruction.

10. Acquisition or Procurement. Equipment containing ionizing radiation source or capable of producing ionizing radiation must be vetted through HSWL SC (se) prior to procurement to ensure neither a facility Nuclear Regulatory Commission (NRC) license is required for the equipment nor state registration. An NRC license is not required for the test sources provided under the Maritime Radiation Detection Program (MRDP).

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must:

   a. Establish and promulgate policies and standards for CG ionizing radiation safety program.

b. Serve as the CG liaison with the Department of Homeland Security (DHS), the Department of Defense (DoD) and all federal agencies in their support of the program.

c. Except for equipment provided under CWMD program, provide a mechanism for funding of all costs associated with establishing, changing and/or disestablishing industrial RADIAC equipment as well as calibration and maintenance of the equipment for Shore units.

d. Hold and maintain the credentials to serve as a Coast Guard RSO.

2. Chief, Specialized Capabilities (CG-721). Chief, Specialized Capabilities (CG-721) must:

a. Maintain fielding plans and unit allowance lists (UALs) for RADIAC instruments for Cutters and Deployable Specialized Forces (DSF), per Reference (f).

b. Maintain radiological OEGs for units/personnel conducting CBRN response operations.

3. Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC) must:

a. Ensure facilities with ionizing radiation producing equipment comply with the requirements of this Chapter.

b. Ensure equipment containing ionizing radiation source or capable of producing ionizing radiation are vetted through HSWL SC (se) prior to procurement.

c. Conduct unit-level evaluations to determine compliance with this Chapter, References (a) through (c) and the following:

(1) 29 C.F.R. § 1910.1096 – Ionizing Radiation;

(2) Title 39 C.F.R. – United States Postal Service (for transportation of radioactive material by mail);

(3) Title 49 C.F.R. – Transportation (for transportation of radioactive material by public roads);

(4) NRC Regulatory Guide 8.13, Instruction Concerning Prenatal Radiation Exposure; and

(5) NRC Regulatory Guide 8.29, Instruction Concerning Risk for Occupational Radiation Exposure.

4. Sector Commanders. Sector Commanders must:

a. Maintain a list of ionizing radioactive equipment.

b. Ensure proper maintenance, certification and/or registration of instruments.

c. Report all discrepancies to HSWL SC (se).

d. Ensure that all personnel operating radioactive equipment are trained and certified, as applicable.

5. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:

a. Maintain inventory of radiation equipment.

b. Update inventory of radiation equipment annually.

c. Report program discrepancies up the chain of command.

d. Provide dosimetry support to Coast Guard facilities with medical diagnostic x-ray capability.

e. Units that have RADIACS (Coast Guard Yard, Aviation Logistics Center (ALC), and TRACEN Yorktown) outside of the CWMD program must appoint a RHR per Reference (c).

f. Ensure that that units' RADIAC equipment allowance is maintained per References (e) and (f).

g. Ensure personnel operating radioactive equipment are trained and certified.

h. Ensure personnel who are exposed at or above Coast Guard Medical Surveillance Criteria are enrolled in OMSEP.

6. Senior Medical Executive (SME). The SME or SME designee for each clinic with medical diagnostic x-ray capability must:

a. Comply with all provisions of this Chapter.

b. Designate in writing a RHR, who must be a technically qualified person to manage the daily operation of the program. This person should have a basic knowledge of radiation safety practices and procedures.

c. Inform HSWL SC (se) in writing, whenever new x-ray equipment is installed, existing x-ray equipment is moved to a different location, new x-ray facilities are constructed, or existing x-ray facilities are renovated.

7. Unit RHR/RSO. RHR/RSO must:

a. Maintain an inventory of all radiation producing equipment at the unit.

b. Ensure compliance with the personnel dosimeter quality assurance and personnel monitoring programs as outlined in this Chapter.

(1) Receive and distribute dosimeters to individuals in the program.

(2) Instruct each dosimeter wearer of its purpose and proper use.

(3) Collect dosimeters promptly at the end of the monitoring period and ship them for analysis.

(4) Promptly send requests for guidance and changes to the personnel monitoring program via phone or email, to the RSO at Commandant (CG-113), and HSWL SC (se).

(5) Maintain all quality assurance and personnel monitoring records and dosimetry reports.

(6) Review radiation reports for unusual exposures.

c. Ensure evaluation of medical or dental diagnostic x-ray equipment is conducted at least once every two years. Ensure evaluation of the following:

(1) New x-ray equipment before its use.

(2) When x-ray equipment is moved to a different location.

(3) New x-ray facilities are constructed.

(4) Existing x-ray facilities are renovated.

d. Ensure that units with RADIAC equipment have an authorized equipment allowance and equipment is maintained per Reference (e).

8. Supervisors. Supervisors must:

a. Ensure that all employees under their supervision who are potentially exposed to ionizing radiation have received the required training and possess a thorough understanding of the nature of the hazard and the protective procedures to reduce or eliminate the exposure.

b. Actively participate in the leadership and mentorship of junior Coast Guard members with regard to hazards associated with ionizing radiation.

9. Employees. Coast Guard military, civilian or contract personnel whose official duties place them at risk for occupational exposure to ionizing radiation must carry out duties in full compliance with this Chapter.

CHAPTER 23 NON-IONIZING RADIATION SAFETY PROGRAM

References:

(a) Title 21 C.F.R. § 1040.10, "Performance Standards for Light Emitting Products"
(b) Title 21 C.F.R. § 1040.11 Specific Purpose Laser
(c) American National Standards Institute (ANSI) Z136.1-2000, American National Standard for the Safe Use of Lasers (NOTAL)
(d) Title 21 C.F.R. § 1010.5, "Exemptions for Products Intended for U.S. Government Use"
(e) Coast Guard Medical Manual, COMDTINST M6000.1(series)
(f) American Council of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV) and Biological Exposure Indices (BEI)
(g) Title 21 C.F.R. § 1910.97 Non Ionizing Radiation
(h) Institute of Electrical and Electronics Engineers, IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields 3 kHz to 3GHz, IEEE Std C95.1-2005, April 19, 2007
(i) Protecting People from Electromagnetic Fields, Department of Defense (DoD) Instruction 6055.11
(j) Navy Safety and Occupational Health Program Manual, OPNAVINST 5100.23G CH1
(k) American National Standards Institute/Institute of Electrical and Electronics Engineers, IEEE standard for safety levels with Respect to Human Exposure to Electromagnetic Fields, 0-3 kHz, IEEE C95.6-2002
(l) Institute of Electrical and Electronics Engineers, IEEE Standard Recommended Practice for Measurement of Potentially Hazardous Electromagnetic Fields, Radio Frequency and Microwave, IEEE C95.3-2002 (series)
(m) DoD Laser Protection Program, Department of Defense (DoD) Instruction 6055.15
(n) Radiation Safety Tactics, Techniques, and Procedures (TTP), CGTTP 4-11.14

A. Discussion.

1. Background. It is Coast Guard policy to preserve and maintain the health and safety of its personnel; and avoid inflicting inadvertent harm to persons with whom Coast Guard comes in contact with, by adopting practices that eliminate or control potentially hazardous Non-Ionizing Radiation (NIR) exposures as per References (a) through (n). Specifically, Reference (e) provides information on medical surveillance; and Reference (n) provides guidance for Units' establishment of radiation safety plan. Sources of non-ionizing electromagnetic emissions include ultraviolet, visible or infrared light radiated by lasers, radars, radio frequency (RF), and microwave sources. Broadband optical sources such as germicidal lamps, phototherapy, backlights, sunlamps, arc lights and projector lamps used in many medical and industrial applications can also be sources of NIR exposure.

2. NIR Devices. The Coast Guard possesses devices that, either directly or indirectly, are sources of NIR. These NIR sources are used either in research applications or in ancillary equipment. Depending on the wavelength/frequency and the irradiance (or power density) value, NIR sources might present a human health hazard.

3. Application. This Chapter applies to all Coast Guard members, and provides specific policy direction for all NIRs including electromagnetic frequency emitters, acquisition of lasers, the approval process for Class 3B Lasers, Class 4 Lasers and lasers that require an exemption from federal regulations; and the prescriptive policy on the program elements required for each class of lasers.

B. Program Requirements.

1. NIR General Program Requirements.

a. Occupational Exposure Limits (OEL). Limit personnel NIR exposures to levels that are below or within Maximum Permissible Exposure (MPE) or Threshold Limits Value (TLV);

b. Precaution Actions. Identify; attenuate; or control through engineering design, administrative actions or protective equipment, hazardous exposure levels or other dangers associated with NIR sources;

c. Control. Control areas in which harmful NIR exposure to unprotected personnel (including the public) could occur;

d. Awareness. Ensure personnel are aware of potential NIR exposures in their work places; and the control measures imposed to limit their exposures to levels that are below or within MPE (see References (c) & (g)) and TLV (see Reference (f)).

e. Reporting Requirements. Investigate, document, and report NIR overexposure incidents. All exposure incidents above MPE are classified as Class D mishaps (unless the severity of injuries and/or damage requires a higher classification) and reported in electronic Aviation Incident and Accident Tracking System (e-AVIATRS) or the electronic mishap (e-MISHAP, Afloat and Ashore) reporting system. All aircrew laser exposure incidents must be reported, regardless of level of exposure or severity of injury. Refer to Paragraph B.2.o of this Chapter for a summary of all laser reporting requirements.

2. Laser Program Requirements.

a. Terminology. Laser is an acronym for Light Amplification by Stimulated Emission of Radiation. Reference (a) is the overarching federal regulation for the sale and manufacture of lasers and Reference (b) is the accepted industry standard for guidance on the safe use of lasers.

b. Laser Specifications. Lasers are designed to operate at various wavelengths in the ultraviolet, visible, and infrared portions of the electromagnetic spectrum. Lasers are of special concern because of their potential to project hazardous levels of energy over great distances. Exposure to lasers can result in permanent and disabling eye injury. Laser classification provides a practical means for determining safety requirements appropriate for different types of lasers. These categories range from Class 1 Laser that is safe to view under all conditions, to Class 4 Laser which can

cause damage under most viewing conditions. Reference (a) provides details on laser classifications.

c. Naming Conventions for Lasers. References (a) and (b) differ slightly in naming conventions for lasers ((Roman numeral for the C.F.R.s (I, II, IIIa, IIIb, IV) versus alphanumeric for the American National Standards Institute (ANSI) standards (1/1M 2/2M, 3A/3R, 3B, 4)), but they share the same common definitions and specifications for hazardous potential. In this Chapter lasers are referenced per the ANSI convention, and are broken down into four main classifications based on the hazardous potential.

d. Laser Classification. The manufacturer of the laser system first classifies the laser and then certifies that it meets all performance requirements of the Federal Laser Product Performance Standard (FLPPS). Any laser or laser system is classified according to its accessible radiation during operation.

(1) Class 1/1M. This type of laser is not considered to be an eye hazard, but since the product might actually be a higher power laser housed within an enclosed system, users should use caution if the system is damaged or used outside of the manufacturer's instructions. This type of laser does not need specific authorization for use; however, it must be labeled identifying the classification; never be pointed directly at someone's eyes; and should be part of a local unit inventory.

(2) Class 2/2M. This type of laser is considered a chronic viewing hazard, but still falls under the category of eye safe as long as the period of exposure is extremely short. The hazard increases when viewed through magnification devices (binoculars). This class of laser also requires a caution label in addition to the classification label to bring the users attention to the additional hazard. Similar to the Class 1 Laser, this type of laser should never be pointed at someone's eyes, and should be part of a local unit inventory.

(3) Class 3. Class 3 Lasers are broken down into two categories (Class 3A/R and 3B) based on hazardous potential.

(a) Class 3A/3R. Lasers in this classification may be considered eye safe, but are also likely to be powerful enough to exceed the MPE level for eye damage under normal viewing. They are hazardous if viewed with magnification optics, and require a yellow caution label or red danger label depending on the specifications as defined in Reference (a). Operators of this type of laser must ensure everyone in the user area is aware of the hazard, and must not direct the laser toward anyone potentially using magnification optics; and should be part of unit inventory.

(b) Class 3B. This type of laser is not considered eye safe. It is considered hazardous under most viewing conditions, and could have diffuse reflection capability (ability to reflect/bounce off a smooth surface and not lose any of

the hazardous potential, i.e. easily bounce back to operator). All Class 3B Lasers require specific engineering control measures as outlined in Reference (a) and must contain a red danger label. They must also be inventoried and individually tracked at the unit as well as specifically approved per this Chapter prior to use.

(4) Class 4. This is the most hazardous type of laser. It is not eye safe under any viewing conditions, and most have a diffuse reflection hazard. This type of laser requires significant control measures to include engineering systems, Personal Protective Equipment (PPE), and detailed approved policy guidance/procedures regarding use. In addition to maintaining a current inventory via the property management system, units that use Class 4 Lasers must also designate a Laser Hazard Safety Officer (LHSO) for local oversight of the laser safety program. All Class 4 Lasers must be specifically approved per this Chapter prior to use.

e. Laser MPE. Laser MPEs also referred to as permissible exposure limits (PEL) or TLVs are published in References (c) and (f); and are set to protect tissue from damage and are not the equivalent of comfortable viewing levels.

f. Laser Safety Review Board (LSRB). LSRB now replaces the Laser Hazard Control Standing Committee (LHCSC). The LSRB acts as the reviewing authority for all laser systems capable of injuries or as otherwise needed based on the hazard potential to Coast Guard personnel or the public. The LSRB must review the acquisition or use of new Class 3B and Class 4 laser, or any laser requiring exemption from federal regulations.

g. Coast Guard Safety and Occupational Health Council (SOHC). The LSRB must present its recommendations to the Safety and Occupational Health Council (SOHC) for laser systems that have military-specific applications (Class 3B or higher or any laser requiring exemption from federal regulations). The SOHC then reviews the documentation and makes the final disposition.

h. Medical, Industrial, And Construction Laser Systems. For medical, industrial, and construction laser systems (Class 3B or higher or any laser requiring exemption from federal regulations) that have no military-specific applications, the LSRB must review and make the final disposition.

i. Laser Hazard Safety Officer (LHSO). Each unit that operates a Class 3B or Class 4 Laser must designate an LHSO in writing. The LHSO must be trained in the evaluation and control of laser hazards, both basic and those specific to the systems in the unit's inventory. Contact HSWL SC (se) for guidance on acceptable training curricula.

j. Laser Radiation Hazard (RADHAZ) Control Measures.

(1) The mandatory performance specifications for laser products listed in References (a) and (b) as well as requirements in Reference (c) must be incorporated as much as possible while remaining operationally effective. Such specifications

include but not limited to:

(a) Radiation emission indicator,

(b) Beam attenuator,

(c) Safe location of controls,

(d) Viewing optics as required,

(e) Scanning safeguards, and

(f) Manual reset.

(2) The ANSI standards in Reference (c) must be reviewed for incorporation of the most appropriate additional administrative & procedural control measures.

(3) The LSRB is the focal point for ensuring the proper mix of control measures is established.

k. Training and Education.

(1) All users of Class 3B and Class 4 Lasers must be trained prior to operational use. Minimum training contents include the following:

(a) Fundamentals of laser operation (physical principles, construction, etc.),

(b) Bioeffects of laser radiation on the eye and skin,

(c) Significance of specular and diffuse reflections,

(d) Non-beam hazards of lasers (electrical shock, etc.),

(e) Laser and laser system classifications,

(f) Control measures,

(g) Overall responsibilities of member and supervisor, and

(h) Occupational Medical Surveillance and Evaluation Program (OMSEP) and emergency medical procedures for accidental exposure, to include Cardio Pulmonary Resuscitation (CPR) for personnel servicing or working on lasers with exposed high voltages and/or the capability of producing potentially lethal electrical currents.

(2) Training for other classes of lasers is not required, but highly recommended.

(3) Any local instructions and specific operating instructions for the lasers found at the unit must be incorporated into the presentation to ensure a comprehensive

training and education module.

(4) All completed training must be documented.

(5) Refresher training must be conducted annually.

l. Medical Surveillance.

(1) All personnel who report being lased must seek medical evaluation.

(2) Personnel working with Class 3B and Class 4 Lasers and laser systems per Reference (e) must be medically monitored and enrolled in Coast Guard Occupational Medical Surveillance and Evaluation Program (OMSEP). This includes personnel who perform routine maintenance. Medical Surveillance is not a requirement for personnel working with Class 1, Class 2, or Class 3A/3R Lasers or laser systems. Reference (e) provides the Coast Guard OMSEP policy and enrollment instructions.

(3) Pre-placement examination must be performed before assignment involving risk of exposure to Class 3B or 4 Lasers to establish a baseline for comparison and measurement following an accidental exposure or ocular damage. Reference (e) provides additional guidance.

(4) Termination laser examinations must be completed when the member is no longer working with Class 3B or 4 Lasers.

(5) Incidental laser workers must have eyes screened for visual acuity. They do not require enrollment in an occupational monitoring program.

(6) Aircrew are considered incidental laser workers. Aircrew medical monitoring requirements, to include an annual eye acuity test within their current flight physical, satisfies all laser monitoring health requirements

m. Formal Risk Assessment.

(1) Prior to a Class 3B or Class 4 Laser approval determination, each program is required to conduct a formal risk assessment evaluation.

(2) The scope of the assessment varies depending on the hazard potential of the system and is determined by the LSRB. It can range from a general description of how people could potentially be injured to a formal system safety evaluation per the requirements of MIL-STD-882D, Standard Practices for System Safety Program Requirements.

n. Laser Acquisition.

(1) All laser systems sold/delivered to Coast Guard, whether it is a single experimental prototype for demonstration, test and evaluation, or procured for

fielding must comply with all provisions of Reference (a) and (b) if applicable. Manufacturers that cannot comply fully with References (a) and (b) must seek a variance through the FDA prior to the sale/delivery of laser systems to the Coast Guard.

(2) For Class 1, 2, 3A/3R Lasers the following requirements apply:

(a) The requesting unit and purchasing agent must ensure that the "FDA Accession" number is recorded on the Purchase Request and/or any other purchasing documentation.

(b) If the manufacturer cannot provide the accession number and/or copies of the compliance verification reports submitted to the FDA, then the laser must not be purchased.

(c) The requesting unit must consider all other aspects of this Chapter for incorporation into local procedures regarding local use of lasers to include (inventory, training, etc.).

(d) While it might not be required in all communities, the requesting unit must also contact the appropriate program or system managers for operational assets to ensure there are no configuration management control conflicts.

(e) For aviation requests, any laser used in the aircraft requires a full Aircraft Configuration Control Board (ACCB) review regardless of class, Commandant (CG-41) must be contacted prior to initiating the purchase.

(3) For Class 3B Lasers, Class 4 Lasers the following requirements apply:

(a) All lasers in this classification require consultation and review by the LSRB regardless of their FDA compliance status, and ultimately must be approved by Commandant (CG-11) or higher as determined by the SOHC.

(b) For "FDA Compliant" lasers, the LSRB must make internal recommendations to the SOHC regarding validity of compliance documentation and recommendations for additional administrative and procedural control measure as required.

(c) At a minimum, laser use request packages to the LSRB must contain the following elements:

[1] Detailed System Description. This section must include all of the technical specifications and basic operating parameters for use of the laser system. It should allow the LSRB to review and understand the basic physical attributes of the laser and how it is used in practice. This section must explain how the system meets each of the engineering control measures required in Reference (a) and if not, explain additional control measures that are required for exemption documentation.

[2] Approved Employment and Use Plan and other Organizational Policy Documents. Based on the hazardous potential to Coast Guard personnel and the public, the employment and use plan must be approved and reviewed by Judge Advocate General and Chief Counsel (CG-094) prior to authorization. This section must cover other ancillary policy documents that are required for documentation of "safe use" policy and procedures (e.g. Coast Guard Air Operations Manual, COMDTINST M3710.1 (series); Surface Operations, Small Arms manuals; mission specific Tactics Techniques, and Procedure manuals; Maintenance Manuals, Maintenance Procedure Cards (MPC) and individual flight manuals or operator manuals); and any other required local instructions. The legal review of the employment and use plan must be conducted with specific emphasis on the hazardous potential of the system within the proposed operating environment to the general public and marine wildlife.

[3] Formal Risk Assessment of Hazards. Additional guidance must be coordinated by the Commandant (CG-113) representative or the LSRB regarding the scope of this evaluation. The end product should clearly explain the probability and severity of the hazards associated with the proposed system and offer recommended mitigation strategies. This assessment must also include a description of the safety features of the system to include all applied control measures, PPE, SOP, interlock systems, emergency cutoff, use of control areas, etc.

[4] Compliance Certification Documentation. An independent verification of the manufacture's stated laser system parameters, hazard classification, hazard distances, optical density requirements, and compliance to the FLPPS is required. Note that any modifications or integration of a previously compliant laser into a new system or platform constitutes the requirements for new compliance documentation (i.e., if a laser system that is compliant on a DoD or other government platform is integrated into a Coast Guard platform, the manufacturer, integrator or the Coast Guard must originate new compliance documentation).

[5] LHSO Oversight Plan. This plan explains the program's intent for LHSO oversight of the acquisition lifecycle of the laser system. The laser acquisition sponsor must consult the HSWL SC (se) for assistance with documenting the safety oversight plan.

[6] Training Plan. Provide details on how operators must qualify to use the laser system safely (i.e. PQS developed, vendor provided operational training, etc.). The sponsor's proposal must focus on system specific hazards, operating procedures, guiding documents and mitigation strategies. The training must be documented.

[7] Estimate of OMSEP enrollment requirements. This section must be a based estimate of how many people at the unit are expected to be enrolled in the OMSEP program. See Paragraph B.2.l (medical surveillance) and glossary for information to assist in making determinations.

[8] Environmental Review. The sponsor program must coordinate an environmental review with Commandant (CG-47). The review must include a National Environmental Policy Act (NEPA) and/or Endangered Species Act (ESA) determination. The program sponsor should consult with Commandant (CG-47) early in the process to determine the extent of the documentation required to gain the requisite approval or exclusion determinations.

(4) Where appropriate, plan, budget, and provide funding for an independent laboratory to perform safety analysis of the laser system prior to LSRB review.

(5) For Lasers that require an exemption from References (a) and (b), the laser acquisition sponsor must submit the required package to FDA's Center for Devices and Radiological Health (CDRH). For further assistance, Programs should contact Commandant (CG-113).

o. Response and Reporting of Laser Exposure Incidents. Reporting of laser exposure incidents supports ongoing federal efforts to identify, educate, and when appropriate, prosecute persons who knowingly disrupt operations through unlawful use of laser devices. The following reporting requirements must be implemented.

(1) Laser exposure from an unknown source (e.g. local community) must be reported to Coast Guard Investigative Service (CGIS) and local law enforcement through the nearest controlling agency. Refer to Coast Guard Standing Requirements (CGSR) 018-15 Force Protection for additional requirements.

(2) All aircrew laser exposure incidents involving manned and unmanned aircraft operations in U.S. National Airspace System must also be reported to nearest FAA controlling facility.

(3) All laser events should be reported to your local Safety Officer for inclusion in Operational Hazard Awareness briefs (i.e., ground laser hot spots).

(4) After an incident, crew members receiving a direct eye strike from a laser should be assessed in accordance with Coast Guard Air Operations Manual, COMDTINST M3710.1 (series). Personnel affected by a direct eye strike must seek medical evaluation as soon as practicable prior to resumption of duties.

(5) Personnel encountering a direct eye strike from an external laser source must adhere to additional laser illumination response and reporting requirements in Coast Guard Air Operations Manual, COMDTINST M3701.1 (series) and U.S. Coast Guard Boat Operations and Training (BOAT) Manual, Volume 1,

COMDTINST M16114.32 (series).

(6) When the optometrist or ophthalmologist confirms an acute laser overexposure incident, report the laser incident to:

(a) The immediate operational chain of command.

(b) The Tri-Service laser Injury Hotline: 800-473-3549.

3. Radiofrequency (RF) Electromagnetic Fields (EMF).

a. Exposure. RF exposure is primarily associated with operation of various radars and communication systems at Coast Guard shore facilities and aboard ships. In addition to personnel concerns, RF fields may generate induced currents or voltages that could cause premature activation of electro-explosive device in ordinance, equipment interference or sparks, and arcs that may ignite flammable materials and fuels. Caution must be exercised to assure all RF fields are identified and clearly marked to avoid RF exposure.

b. Permissible Exposure Limits (PELs) and Maximum Permissible Exposures (MPEs). Reference (g) provides PEL, References (h) through (i) provide MPE's for various frequency ranges. These references should be reviewed in detail when exposure to RF hazard is present or anticipated.

c. RF Hazard Evaluation. A comprehensive RF hazard evaluation must be conducted whenever there is RF producing equipment. A hazard evaluation where multiple RF emitters exist in close proximity to each other requires considerable technical familiarity with EMFs. Hazard evaluation must be repeated annually or when there is change in equipment or process that might result in exposure.

4. Guidance. Units requiring evaluation of RF hazards and measurements must contact HSWL SC (se) for guidance.

5. Control of RF Radiation Hazards (RADHAZ).

a. Boundaries. Boundaries must be created where exposures are identified that exceed MPE. RADHAZ warning signs must be posted to restrict area from the general population.

b. Routine Exposure. Personnel who routinely work directly with RF equipment that routinely emits RF radiation must receive awareness training. Further information is available by contacting HSWL SC (se).

c. Training. Training must be provided before assignment to such work areas; and annually or whenever there is a change in equipment, hazard, or operating procedures.

d. Training Topics. Training must include but not limited to: potential hazards of RF fields; established procedures and restrictions to control RF exposures; and personnel responsibility to limit their own exposures.

6. Other Optical Sources. Broadband optical sources such as germicidal lamps, phototherapy, sun lamps, backlights, arc lights, projector lamps, high intensity discharge lamps and infrared arrays are also used in many medical and industrial applications. These types of light sources may require controls to prevent possible acute effects such as skin burns, photokeratitis, cataracts or retinal burns.

C. Responsibilities.

1. General (excludes laser systems) Non-Ionizing Radiation Responsibilities.

a. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must:

(1) Develop and promulgate policies and standards to control potential hazards to NIR exposures.

(2) Serve as Coast Guard liaison to the Department of Homeland Security (DHS), DoD or other Federal Agencies in the support of the program.

(3) Conduct evaluations of HSWL SC (se) to provide oversight of the Safety and Environmental Health (SEH) support program, and to gain insight into program areas that need assistance. These safety assurance assessments must be conducted every two years and include:

(a) Assess the adequacy of safety and health programs, as well as, quality assurance activities to ensure compliance with Occupational Safety and Health Administration (OSHA) standards and Coast Guard requirements. The assessment must provide an objective assessment of loss prevention efforts, as determined by analysis of accident or injury and illness data, records, and workplace evaluations.

(b) Prepare a written report of evaluation findings and recommendations for HSWL SC (se) Command. The report must contain:

[1] An overall evaluation of the activities in the safety and health program;

[2] Safety and health program deficiencies observed; and

[3] Recommended corrective actions.

b. Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC) must:

(1) Provide support to units to determine areas that need hazard assessment.

(2) Ensure Safety and Environmental Health Officers (SEHO) acquires the necessary knowledge and skill to assist in the administration of the NIR program.

(3) Ensure that units maintain an inventory of NIR producing equipment.

(4) Ensure accurate knowledge of Coast Guard wide inventory equipment.

(5) Assist units in procuring professional services for RF hazard evaluation and measurement.

(6) Conduct unit-level evaluations to determine compliance with References (a) through (m) and this Chapter's requirements.

(7) Prepare a written report of evaluation findings and recommendations for the unit Command and copy the next level in the unit's chain-of-command, the Sector Safety Manager (SSM), District Safety and Risk Management (RM) Committee, Commandant (CG-113), and any command that must control or eliminate identified hazards.

(8) Develop TTP to ensure compliance with this chapter.

c. Area and District Commanders. Area and District Commanders must:

(1) Assist subordinate commands to achieve reductions in non-ionizing RADHAZs.

(2) Ensure that subordinate units meet the requirements of this program.

d. Sector Commanders. Sector Commanders must:

(1) Maintain an inventory list of all NIR producing equipment.

(2) Maintain an inventory of all hazard evaluation reports.

(3) Ensure all RADHAZs are abated or mitigated.

(4) Review hazard evaluation reports.

(5) Ensure that units maintain hazard evaluation report.

e. Commanding Officers/Officers-in-Charge (CO/OIC). Commanding Officers/Officers-in-Charge (CO/OIC) must.

(1) Ensure that training is provided to all personnel before assignment to NIR exposure area.

(2) Comply with radiation safety practices including control measures.

(3) Maintain accurate inventory of NIR producing equipment and forward a copy to Sector Safety Office and copy HSWL SC (se).

(4) Maintain and forward a copy of the hazard evaluation to Sector Safety Office and HSWL SC (se).

(5) Designate a Radiation Health Representative (RHR) for units with EMF Systems who will:

(a) Manage the unit's EMF systems.

(b) Conduct an annual EMF inventory and assessment.

(c) Review the effectiveness of all required control measures as specified for the system.

(d) Ensure all operators and personnel who might work with or around EMF receive approved training upon initial assignment to the unit and annually thereafter.

(e) Assign only qualified and trained personnel to operate or maintain EMF systems.

(f) Document and report overexposures.

f. Supervisors. Supervisors must:

(1) Ensure that all employees under their supervision who are potentially exposed to NIR have received the required training and possess a thorough understanding of the nature of the hazard and the protective procedures to reduce or eliminate the exposure.

(2) Actively participate in the leadership and mentorship of junior Coast Guard members with regard to hazards associated with NIR.

g. Employees. Coast Guard military, civilian or contract personnel whose official duties place them at risk for occupational exposure to non-ionizing radiation must carry out duties in full compliance with this Chapter.

2. Laser System Responsibilities.

a. Deputy Commandant for Mission Support (DCMS). Deputy Commandant for Mission Support (DCMS) must:

(1) Ensure all subordinate support staffs and headquarters units comply with the requirements of this Manual for new and existing lasers and laser systems, including all acquisition activities.

(2) Ensure staff elements incorporate the requirements of federal law as cited in Reference (a) and the program elements of this Manual at the earliest possible time in the design or purchase of new lasers. If full compliance is not possible because of operational needs, ensure the laser is properly exempted per this Manual prior to use. Any deviations from federal law must also be reviewed by Commandant (CG-094).

(3) Designate Commandant (CG-11) as the lead agent for the administration of the laser hazard control program.

b. Deputy Commandant for Operations (DCO). Deputy Commandant for Operations (DCO) must:

(1) Ensure the program elements of this Manual are considered in the development of future operational requirements to ensure they can be accounted for in the development and acquisition of new capabilities.

(2) Develop and implement policies and procedures in all applicable doctrine, tactics and operations manuals regarding lasers. Ensure clear operating procedures remain consistent with this Manual, and per the final approval documentation of each hazardous Class 3B and Class 4 Laser system.

(3) Ensure all operational units employees the use of lasers and laser systems adhere to this Manual and any subsequent policies, procedures and standards as developed by higher authority.

c. Force Readiness Command (FORCECOM). Force Readiness Command (FORCECOM) must:

(1) Designate members as needed to act as representatives on LSRB and SOHC activities.

(2) Develop a quality accession mechanism to evaluate compliance with this Manual and all applicable standards for the safe use of lasers.

d. Judge Advocate General & Chief Counsel, Commandant (CG-094). Judge Advocate General & Chief Counsel, Commandant (CG-094) must:

(1) Designate members as needed to act as representatives on LSRB and SOHC activities.

(2) Review all requests for laser exemption from federal law as outlined in References (a) and (b) for all Class 3B and Class 4 Lasers used in Coast Guard operations.

(3) Review the employment plan and determine if deviations from federal law and if any potential injury to the general public and/ or marine wildlife are acceptable and/or commensurate with mission objectives.

e. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must:

(1) Develop and implement policies and procedures for the administration of the Coast Guard's laser hazard control program to include: LSRB review protocol and support, standardized laser training, medical surveillance, and incident/accident reporting procedures (both medical emergency and safety).

(2) Act as a clearing house for all package submissions to: FDA; LSRB; and SOHC.

(3) Designate medical and safety staff members from Commandant (CG-11) to maintain an appropriate level of Laser Hazard Safety Officer Qualification or certification to ensure professional competence, and maintain liaison with DoD and other government agencies regarding the management of laser RADHAZs.

(4) Designate an appropriate number of staff personnel to act as regional LHSO for field support regarding laser hazard assessments, technical concerns and quality accession.

(5) Serve as the CG representative to DoD laser System Safety Work Group (LSSWG).

f. Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC). Commanding Officer, HSWL SC must:

(1) Develop TTP to ensure compliance with this Chapter and applicable Federal, State, and local regulations.

(2) Ensure SEHOs acquires the necessary knowledge and skill to assist in the administration of the laser safety program.

(3) Ensure that units maintain inventory of NIR producing equipment.

(4) Ensure accurate knowledge of Coast Guard wide inventory equipment.

(5) Assist units in procuring professional services for laser evaluation and measurement.

(6) Conduct Unit-level evaluations to determine compliance with References (a) through (j) and this Chapter's requirements.

(7) Prepare a written report of evaluation findings and recommendations for the unit Command and copy the next level in the unit's chain-of-command, the SSM, District Safety and RM Committee, Commandant (CG-113), and any command that must control or eliminate identified hazards.

g. Units with Class 1/1M, 2/2M, or 3A/3R Lasers or Laser Systems. Units with Class 1/1M, 2/2M, or 3A/3R Lasers or laser systems must:

(1) Conduct an annual laser hazard assessment to identify potential threats. While not mandatory, it is recommended that units maintain a local inventory of non-hazardous lasers for awareness purposes.

(2) Obtain the FDA "Accession Number" for all Class 1, 2, and 3A / 3R Lasers and record it on the PR and/or any other procurement documentation necessary to ensure the laser is properly recorded as being FDA compliant. If in question, contact FORCECOM or Commandant (CG-113) for guidance.

(3) Conduct laser hazard awareness training.

h. Units with Class 3B or Class 4 Lasers or Laser Systems. Units with Class 3B or Class 4 Laser or laser systems must:

(1) Designate and train a LHSO for local level administration of laser hazard controls.

(2) Conduct an annual laser hazard assessment and review the effectiveness of all required control measures as specified in the approval of the system.

(3) Ensure all laser operators and personnel who might work with or around lasers receive approved training upon initial assignment to the unit and annually thereafter.

(4) Assign only qualified and trained personnel to operate lasers and laser equipment.

(5) Maintain an annual inventory of all Class 3B, Class 4 Lasers, or any system that requires exemption from federal regulations, in the property management system and submit a copy to the Sector Safety Office, HSWL SC (se) and FORCECOM.

(6) Identify unit personnel who require medical surveillance and ensure that they are enrolled in OMSEP.

(7) Provide unit personnel with appropriate laser protective equipment (eyewear, clothing, barriers, screens, etc.) as outlined in the approval of the specific systems.

(8) Ensure laser warning devices and signs are posted per Reference (a) and in the approval of the system to ensure unsuspecting personnel are protected from laser radiation.

(9) Maintain a firing log for all Class 3B and Class 4 Laser use events. Documentation must include the date of each separate laser firing event.

i. Laser Hazard Safety Officer (LHSO). LHSO must:

(1) Identify all lasers used at the unit and maintain a local inventory. For all Class

3B and Class 4 Lasers, the inventory must be forwarded to Commandant (CG-113) and FORCECOM for auditing and standardization purposes. The inventory must be verified annually.

(2) Monitor and maintain local oversight over all laser operations at the unit for quality accession purposes. Be prepared to suspend, restrict or terminate laser operations if needed and report it immediately to the chain of command.

(3) Ensure all Class 3B and Class 4 Lasers are properly secured when not in use and only trained and authorized operators and maintainers have access to them.

(4) Develop a local laser instruction or SOP to ensure all of the specific requirements mandated in the system's approval, this Manual and other Commandant Instruction manuals are consolidated in one document.

(5) Ensure the appropriate unit personnel are entered into the OMSEP.

(6) Report all laser injuries or potential injuries via mishap reporting guidance found in Reference (e).

(7) Ensure all laser operators and maintainers receive initial and required recurrent laser training prior to working with or near Class 3B and Class 4 Lasers.

j. Supervisors. Supervisors must:

(1) Ensure that all employees under their supervision who are potentially exposed to lasers have received the required training and possess a thorough understanding of the nature of the hazard and the protective procedures to reduce or eliminate the exposure.

(2) Actively participate in the leadership and mentorship of junior Coast Guard members with regard to hazards associated with lasers.

k. Employees. Coast Guard military, civilian or contract personnel whose official duties place them at risk for occupational exposure to lasers must carry out duties in full compliance with this Chapter.

CHAPTER 24 FALL PROTECTION PROGRAM

References:

(a) 29 C.F.R. 1910, Subpart D, "Occupational Safety and Health Standards for General Industry"
(b) 29 C.F.R. 1926, Subpart M, "Safety and Health Regulations for Construction"
(c) 29 C.F.R. § 1915, "Occupational Safety and Health (OSH) Standards for Shipyard Employment"
(d) Tower Manual, COMDTINST M11000.4 (series)
(e) Aids to Navigation Manual – Structures, COMDTINST M16500.25 (series)
(f) Fall Protection Program Tactics, Techniques, and Procedure (TTP) 4-11.15

A. Discussion.

1. Background. Falls from heights are a leading cause of work-related injuries and fatalities in construction and general industry. Although the Coast Guard has safe work practices in place we continue to experience serious fall related mishaps. These mishaps affect the health and welfare of our employees, lead to reduced readiness, reduced productivity, as well as high medical and compensation costs. Falls from heights are preventable. Careful activity planning and preparation establish the necessary groundwork for a mishap-free workplace. The intent of this Chapter is to establish policy for Fall Protection (FP) programs.

2. Application. This Chapter applies to all Coast Guard operational and support activities, including afloat, ashore and aviation units and industrial activities that meet the criteria identified below in Section B, Program Requirements. This Chapter provides information on standards and regulations for the protection of personnel working at heights and exposed to fall hazards.

B. Program Requirements.

1. Fall Protection Plan (FPP). Units having personnel working at height, exposed to fall hazards and using fall protection gear must establish, implement and manage a FPP that complies with References (a) through (c). Units working aloft on towers and Aids to Navigation structures must also comply with applicable requirements contained in References (d) and (e) respectively. Reference (f) provides guidelines for Units' development and implementation of a comprehensive fall protection program. The goals of this plan are to identify and eliminate and/or control fall hazards. The FPP must:

   a. Outline guidance, requirements and worker responsibilities within the FPP,

   b. Highlight the command's pledge to provide a safe work environment for personnel working at heights,

   c. Underscore the safety of personnel during performance of their work as a paramount consideration in all Coast Guard mission and support activities.

2. Competent Persons. The unit must train and designate a competent person to manage the FPP. The competent person must have the knowledge and understanding needed to identify all fall hazards and must have thorough understanding of all FP systems.

3. Application of FP Measures. Per Reference (a), the standard threshold height mandating FP is four (4) feet. Units must provide FP to personnel (military and civilian) when exposed to fall hazards including any elevated walking or working surface with unprotected sides, edges of roofs, or floor opening, from which there is a possibility of falling four feet or more to a lower level. Units must also provide FP to personnel (military and civilian) exposed to a possibility of a fall from any height onto dangerous equipment, into a hazardous environment, or onto an impalement hazard. Exceptions to these standards include:

   a. At construction sites, workers (contractors only) must adhere to the threshold height no greater than six (6) feet, per Reference (b). When Coast Guard employees visit construction sites to inspect a contractor's work, they are permitted to follow the 6 foot threshold height standard.

   b. At shipyards, the threshold height ceiling for FP for federal workers (military and civil service) is five (5) feet per Reference (c). Personnel involved with ship building and/or repair activities as well as personnel conducting inspections in shipyards or on vessels are permitted to follow the 5-foot threshold height standard.

   c. Units can prescribe more stringent threshold requirements for workers due to special conditions or site-specific facility needs.

4. Training Program. Units must train all workers who might be exposed to fall hazards. Competent persons must manage the training program. The goals of the fall protection training program are twofold: instill awareness of fall hazards in the workspace and train workers in the steps to be followed to lessen or remove the risk of these hazards.

5. FP Equipment. FP equipment including full body harnesses, work positioning lanyards, and fall arrest lanyards must meet the requirements of American National Standards Institute (ANSI) Z359.1-1992. Appendix C of Reference (e) provides additional guidance regarding climbing safety and rescue equipment.

6. Additional Guidance. Further information regarding compliance with and implementation of FP requirements is available by contacting HSWL SC (se).

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must develop and maintain policies and objectives to establish and manage the FP program.

2. Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC) must

provide comprehensive support to assist units in implementing their FPP, including the following:

a. Publish directives to ensure proper implementation of the FP program.

b. Conduct periodic assessments to identify fall hazards and inspect FP equipment.

c. Assist units with establishing a written FPP.

d. Upon request from units, conduct workplace hazard assessments to determine if fall hazards are present and to characterize exposure risk. Reports should recommend appropriate actions to mitigate all fall hazards.

3. Sector Commanders. Sector Commanders must:

a. Develop and implement the Sector FPP that ensures compliance with FP requirements in Paragraph B. Consult with the HSWL SC (se) Regional Safety and Environmental Health Office (SEHO) for assistance.

b. Designate a competent person to manage the fall protection program who has read and understands applicable requirements contained in References (a) through (c).

c. Establish safe work practices for working aloft.

d. Establish active fall-hazard prevention and control activities.

e. Ensure personnel working at heights receive appropriate fall hazard and protection training.

f. Ensure protective equipment for working aloft is inspected, stored and maintained correctly.

g. Establish working aloft rescue procedures.

h. Assist subordinate units with program development and training requirements.

4. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:

a. Develop and implement the unit FPP that ensures compliance with FP requirements in Paragraph B. Sector units must consult with their Sector Safety Manager (SSM) for assistance. Consult with the HSWL SC (se) Regional SEHO for additional assistance.

b. Establish safe work practices for working aloft.

c. Establish active fall-hazard prevention and control activities.

d. Ensure personnel working at heights receive appropriate fall hazard and protection training.

e. Ensure protective equipment for working aloft is inspected, stored and maintained correctly.

f. Establish working aloft rescue procedures.

5. Competent Persons. Competent persons must:

a. Manage the FPP.

b. Train all workers who work at heights or are otherwise exposed to fall hazards.

c. Stop work if unsafe conditions exist.

d. Evaluate fall hazards and implement appropriate protections.

e. Assess workers who use fall arrest systems.

f. Make workers aware of their roles to monitor FP systems while working at heights.

g. Make workers aware of the limits of their fall arrest gear and how to properly inspect their gear.

h. Carry out safety inspections of installed FP systems and worker fall arrest gear.

6. Supervisors. Supervisors must:

a. Ensure that all personnel working aloft follow unit safe work practices.

b. Ensure that all personnel working aloft receive fall hazard and protection training.

7. Employees. Employees must:

a. Cease work and immediately notify the competent person if the equipment or work process is not safe.

b. Understand their roles to monitor FP systems while working at heights.

c. Understand the limits of their fall arrest gear and how to properly inspect their gear.

d. Follow all safe work practices including wearing of Personal Protective Equipment (PPE).

e. Use only authorized PPE.

f. Inspect PPE daily.

CHAPTER 25 ENVIRONMENTAL HEALTH PROGRAM

References:

(a) Naval Ships Technical Manual (NSTM), Chapter 510, Heating, Ventilation, and Air Conditioning Systems for Surface Ships
(b) ASHRAE Standard 62-1999, Ventilation for Acceptable Indoor Air Quality, Section 6.1 (NOTAL)
(c) Unaccompanied Personnel Housing (UPH) Design Guide, COMDTINST M11012.6 (series),
(d) Illuminating Engineering Society (IES) Lighting Handbook (NOTAL)
(e) Manual of Naval Preventive Medicine, NAVMED P-5010
(f) Child Development Services Manual, COMDTINST M1754.15 (series)
(g) Public Swimming Pools, American National Standards Institute (ANSI)/NSPI-1 (series)
(h) Public Spas, ANSI/NSPI-2 1999
(i) 40 C.F.R. § 150 -189, "Pesticide Regulations"
(j) U. S. Navy Shipboard Pest Control Manual, NAVMED P-5010-26, May 2008
(k) Armed Forces Pest Management Board Technical Information Memorandum Number 39, Guidelines for Preparing Pest Control Contracts
(l) Armed Forces Pest Management Board Technical Guide Number 18, Installation Pest Management Program Guide
(m) Food Safety and Sanitation Program Tactics, Techniques, and Procedure (TTP) CGTTP 4-11.12A
(n) U. S. Food and Drug Administration Food Code
(o) Naval Engineering Manual, COMDTINST M9000.6 (series),
(p) 40 C.F.R. § 100-149, "Environmental Protection Agency (EPA), Effluent Guidelines"
(q) 40 C.F.R. §763, "Asbestos Containing Materials in Schools"
(r) HUD Technical Guidelines for the Evaluation and Control of Lead-Based Paint (LBP) Hazards in Housing
(s) 40 C.F.R. §745, "EPA Lead-based Paint (LBP) Poisoning Prevention in Certain Residential Structures"
(t) 40 C.F.R. § 141, "National Primary Drinking Water Regulations"
(u) A Citizen's Guide to Radon: The Guide to Protecting Yourself and Your Family From Radon, EPA 402/K-12/002
(v) Consumer's Guide to Radon Reduction, EPA 402/K-10/005
(w) Civil Engineering Manual, COMDTINST M11000.11. (series)
(x) Maintenance Assessment Guide for Coast Guard Housing, COMDTPUB P11101.21 (series)
(y) Centers for Disease Control and Prevention (CDC), "Screening Young Children for Lead Poisoning: Guidance for State and Local Public Health Officials"
(z) U. S. Coast Guard Real Property Management Manual, COMDTINST M11011.11 (series)
(aa) Information and Life Cycle Management Manual, COMDTINST M5212.12 (series)
(bb) Quarantine Regulations of the Navy, OPNAVINST 6210.2 World Health Organization, International Health Regulations (IHR 2005)

(cc) Memorandum of Understanding between Centers for Disease Control & Prevention and U.S. Coast Guard (2009)
(dd) World Health Organization, Interim Technical Advice for Inspection & Issuance of Ship Sanitation Certificates
(ee) Coast Guard Housing Manual, COMDTINST M11101.13 (series)
(ff) Tri-Service Food Code, TB MED 530/NAVMED P-5010/AFMAN 48-147-IP, 30 Apr 2014.
(gg) Coast Guard Medical Manual, COMDTINST M6000.1 (series)
(hh) Integrated Pest Management (IPM) Tactics, Techniques, and Procedures (TTP); CGTTP 4-11.13A
(ii) Water Supply and Wastewater Disposal Tactics, Techniques, and Procedures (TTP); CGTTP 4-11.10

A. Discussion.

1. Background. This Chapter provides requirements and guidance to prevent human illness through the elimination or control of health hazards. Environmental health is a science devoted to the identification, evaluation and control of various environmental factors that arise in living or working environments that may lead to impaired health. The primary goal of environmental health is to ensure Coast Guard personnel are provided with healthful working and living conditions. History has repeatedly demonstrated the positive relationship between a healthful environment and mission accomplishment. To be effective, environmental health programs must be proactive.

2. References. General program requirements are based on standards and policies contained in References (a) through (gg). Additionally, References (m); (hh); and (ii) provide Units guidance to develop, implement and maintain effective food safety and sanitation program as well as integrated pest management program; and water and wastewater disposal program.

3. Application.

   a. Paragraph B.6 of this Chapter applies to Coast Guard owned housing, Child Development Centers (CDC) and Unaccompanied Housing (UPH).

   b. Lead hazard protection program requirements for general industry, shipyards, and construction work, are contained in Chapter 27.

   c. Prior to any construction, remediation or abatement operations when working with or conducting inspections of suspected Asbestos, Lead and Radon materials, contact HSWL SC (se) or your HSWL SC (se) detached Safety and Environmental Health Office (SEHO) for additional guidance.

   d. Where states have enacted laws for asbestos, lead or radon which are more stringent than the requirements in this chapter, the state's law takes precedence over the requirements of this chapter.

B. Program Requirements.

1. Habitability. Maintaining habitability is an aspect of environmental health that focuses on improving living conditions in berthing and other living spaces. Basic components include but are not limited to: sanitation, illumination, ventilation, and indoor air quality.

2. Swimming Pools and Spas. Swimming pools, spas, wading pools, and training tanks must be maintained in a manner that affords maximum protection from disease and injuries. Reference (e) provides requirements for the safe and healthful operation of swimming pools and other bathing areas including saunas and steam rooms. Design, construction, operation and maintenance of facilities must conform to References (g) and (h).

3. Pest Management.

   a. Pest Management Program. Pest management is used to control noxious/invasive plants and animals, other undesirable vegetation, pests found in and around buildings, public health pests, turf and ornamental pests, vertebrate pests, quarantine and regulated pests. Typical pests include arthropods, birds, rodents, nematodes, fungi, bacteria, viruses, algae, snails, marine borers, snakes, weeds, and other organisms (except for human or animal disease-causing organisms) that adversely affect readiness, operations, or the well-being of personnel and animals; attack or damage real property, supplies, equipment, or vegetation; or are otherwise undesirable. This program seeks to minimize reliance on chemical pest control procedures due to the adverse health effects of pesticides on human health and the environment. The program policy and procedures are consistent with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as well as Environmental Protection Agency (EPA) and Occupational Safety and Health Administration (OSHA) standards.

   b. Integrated Pest Management (IPM) Strategy. All units must establish and maintain IPM programs to control pests that may adversely affect health or damage structures or property. A core principle of IPM is that chemical controls are used as a last resort when preventive and non-chemical measures are deemed inadequate. Guidance and a template for developing a unit IPM program can be found in Reference (hh). IPM policies and procedures shall be consistent with federal, state and local regulations.

   c. Pesticide Use. The EPA classifies pesticides as restricted use pesticides (RUP) or general use (unclassified) pesticides.

      (1) Restricted Use Pesticides (RUP) are not available for purchase or use by the general public. RUP's have the potential to cause unreasonable adverse effects to the environment and injury to applicators or bystanders without added restrictions. The "Restricted Use" classification restricts a product, or its uses, to trained and certified applicators. Accordingly, Coast Guard personnel are not permitted to apply RUP unless trained per paragraph 3.d and review applicable safety data sheets.

(2) General Use (unclassified) Pesticides (GUP) are available for purchase or use by the general public. They do not require a license for personal use on an individual's property or for distribution. Coast Guard personnel are authorized to apply general use pesticides on Coast Guard property provided the requirements of their unit IPM and hazard communication programs are met.

(3) Personnel seeking to use any pesticides on property not owned by the CG must acquire written approval from the property owner.

d. Pesticide Applicator Training and Certification. In cases where CG members apply pesticides as part of their job duties, they must be trained and certified under one of the programs listed below:

(1) State Certified or Licensed Pesticide Applicators. State Certified or Licensed Applicators have met the training and certification requirements of the State in which they apply pesticides. A copy of the certification or license must be maintained at the unit.

(2) GUP Applicators. GUP applicators are Coast Guard personnel that apply commercially available unclassified pesticides on Coast Guard properties. These personnel shall be trained in accordance with Chapter 11, (Hazard Communication Program) of this Manual. Training must include: product hazards per Safety Data Sheet (SDS), location of SDS, required protective measures, proper storage, application methods, disposal, transport, and emergency procedures. They must also meet any state training requirements for applying general use pesticides.

(3) Shipboard Pest Management Specialist. Shipboard Pest Management Specialists have completed the Navy's Shipboard Pest Control Course or Medical Entomology and Pest Management Technology for Preventive Medicine Technicians Course, which will equip them to apply non-restricted use pesticides afloat. This program is not available to civilians. Annual refresher training is required to maintain certification. Shipboard Pest Management Specialist must follow hazard communication training and record-keeping requirements.

(4) Shipboard Pest Management Training. Afloat unit Culinary Specialists must attend shipboard pest management training to increase their understanding of sanitation practices related to shipboard pest control, pest recognition, and proper preparation of spaces before and after pesticides are applied. Although these personnel do not receive certification, they can assist the applicator in applying pesticides, when directly supervised by authorized personnel.

e. Record Keeping. Each unit must maintain a log of all pesticide applications, including general use pesticides and all training records. The log must be maintained for a minimum of two years and archived for permanent retention. Non-chemical pest control activities involved in pest management should also be documented. Guidance for record keeping is provided in Reference (hh).

f. Mixing, Storage, and Transport. Pesticides must be stored, mixed and loaded in suitable facilities and in such a manner that the material is not degraded. Workers, the public and the environment must not be threatened by exposure under routine conditions or after an accidental spill. Pesticides must be secured when unattended to prevent tampering and accidental exposure or release into the environment. Units must include pesticides in their spill prevention control and contingency plans. Reference (e) provides general guidance on use of pesticides. Reference (j) gives specific guidance for shipboard use and storage.

g. Handling of Pesticides. Before handling any pesticide, read all label directions for use and precautions. Review the Safety Data Sheets (SDS) and any other available product information. All pesticides must be used, mixed, stored, transported, and disposed of in accordance with manufacturer's directions. Personnel must read requirements spelled out in the SDS for handling of respective pesticides. Units must include pesticides in their spill prevention control and contingency (SPCC) plans.

h. Commercial and Contract Pest Control Services. Contractors performing pest control work on Coast Guard facilities must comply with all certification, licensing, and registration and use requirements applicable in the legal jurisdiction in which the work is performed. Follow the guidelines in Reference (k) for all contracts for pest control services. Contracted pest control services must have an IPM approach. Records must be maintained per B.3.e of this Chapter. A copy of the certification or license of all commercial applicators must be maintained at the unit.

i. Ship Sanitation Certificates. Commanders of afloat units who travel overseas must maintain current Centers for Disease Control and Prevention (CDC) – Ship Sanitation Control Certificate obtained through HSWL SC (se) or a HSWL SC (se) authorized representative. The certificate must be renewed every 6 months. One month extensions may be granted if a request is made to the original issuer before the certificate expires.

j. Rat Guards. When moored, rat guards must be mounted on all tending lines to prevent rodents from gaining access to a ship. Rat guards should be mounted according to Reference (hh). See also References (j), (bb), (cc) and (dd) for guidance.

k. Additional References. Additional information can be found in Reference (k) for afloat units and References (e) and (l) for shore units. Further information is available by contacting HSWL SC (se).

4. Food Service Sanitation.

a. Food service operations require careful management to protect the health and well-being of patrons. Steps must be taken to prevent the contamination of food items as they flow through the galley by identifying and addressing critical control points.

b. Reference (m) details the management requirements/guidance for the Coast Guard's food service sanitation program. Reference (n) is the industry standard for food service sanitation. Reference (ff) is the military food safety standards, criteria,

procedures, and roles for the sanitary control and surveillance of food to mitigate risk factors known to cause foodborne illness. It is based on the FDA Model Food Code and is designed to be consistent with Reference (n).

c. Forms in the cancelled Food Service Sanitation Manual, COMDTINST M6240.4A, can be found in the Food Safety and Sanitation Program (FS&SP) TTP, Reference (m) or the Coast Guard Medical Manual, COMDTINST M6000.1 (series), Reference (gg). References (n) and (ff) can be used to supplement Reference (m) and to address outdated standards, criteria, procedures and/or roles.

d. Required Program Elements:

(1) A Food Service Officer/Food Service Manager (FSO/FSM) or Designated Individual (DI) must be appointed in writing by the Commanding Officer/officer in charge (CO/OIC). This person will be responsible for: procurement, receipt, inspection, and storage of wholesome food items; and the prevention of food-borne illnesses at their units.

(2) The unit Health Services Technician (HS) or Executive Officer (XO) must perform weekly food service facilities inspections. Results of the inspection must be submitted to the unit CO/OIC and copies provided to the FSO/FSM.

(3) Foods must be acquired from approved sources and properly handled from receiving to serving.

(4) Food service equipment must be approved by the National Sanitation Foundation (NSF) and properly maintained.

(5) Cleaning and disinfection procedures must be followed.

(6) Food borne diseases must be reported using the disease alert format found in Reference (gg). Immediately consult with HSWL SC (se) for assistance in a food borne illness investigation.

(7) Culinary Specialist (CS) personnel must be trained annually on sanitation requirements. CS personnel not routinely involved in food preparation duties should receive refresher training on sanitation requirements prior to assumption of those duties.

e. Further information is available by contacting HSWL SC (se).

5. Potable Water and Waste Water Systems.

a. Water Supply Afloat. Units must:

(1) Ensure potable water systems are operated and maintained per Reference (o).

(2) Develop a water sanitation bill to meet the individual needs of the ship and address any unique conditions.

(3) Provide training to personnel who maintain and treat potable water systems.

(4) Obtain water from approved sources. If the ship must use suspect water, it must be properly disinfected before use.

(5) Properly handle and store potable water hoses.

(6) Indoctrinate crew in water conservation methods.

(7) Take appropriate actions to protect potable water tanks and piping systems from contamination.

(8) Prevent cross-connections between the potable water system and any other piping system on the ship.

(9) Install back-flow prevention devices on all potable water hose connections to ensure non-potable water or other materials are not pulled into the potable water system.

(10) Conduct required halogen residual, pH, and bacteriological testing of the water system to meet standards outlined in Reference (t).

(11) All water systems complaints of poor taste or smell must be investigated using guidelines established by HSWL SC (se).

b. Water Supply Ashore. Units must:

(1) Follow the storage, disinfection, testing and record keeping requirements of Reference (t), and contact local authorities to determine additional requirements when the unit has an independent water system and does not receive water from an approved city water source.

(2) Units with independent water systems must conduct required halogen residual, pH, and bacteriological testing of water in supply piping throughout the unit to meet standards outlined in Reference (t) and applicable state laws.

(3) Properly label all non-potable water sources.

(4) Properly protect and maintain well water sources per Reference (t).

(5) All water system complaints of poor taste or smell must be investigated per guidelines established HSWL SC (se).

(6) Install back-flow prevention devices on all potable water hose connections to ensure non-potable water or other materials are not pulled into the potable water system.

(7) Follow storage and treatment requirements in Reference (t) and any applicable state or other permit requirements, if storing bulk potable water.

c. Wastewater Treatment Afloat. Units must:

(1) Discharge of sewage and gray water must be completed per Chapter 3 of Vessel Environmental Manual, COMDTINST M16455.1 (series) for guidance, including reporting of releases.

(2) Properly maintain the Collection, Holding and Transfer (CHT) system to prevent accidental discharge of sewage.

(3) Have a kit available for safe clean up and disinfection of sewage spills onboard.

(4) Ensure personnel who conduct wastewater system maintenance are trained on the CHT systems. Training must include personal hygiene, sanitation, PPE, and safety.

d. Wastewater Treatment Ashore. Units must:

(1) If the unit has a septic system, ensure proper operation and maintenance of the system. Inspect the tanks periodically based on the guidance provided in Reference (p). Contact the local health department to determine any additional requirements.

(2) If the unit has a community wastewater treatment system, follow the guidelines provided in Reference (p) and contact local and state authorities to determine any additional requirements.

(3) Provide training to personnel who conduct maintenance on the CHT systems. Training must include personal hygiene, sanitation, PPE, and safety.

(4) If the unit has a wastewater treatment plant, comply with operating and discharge permit requirements as well as all applicable federal, state and/or local laws and regulations.

(5) Further information is available by contacting HSWL SC (se).

6. Coast Guard CDC and Housing Asbestos, Lead and Radon (LAR) Program Requirements.

a. Application.

(1) For Lead-Based Paint (LBP) hazards, this Chapter's requirements apply to Coast Guard controlled housing and CDCs constructed prior to 1981. For asbestos, radon, lead in water or lead in soil hazards, the requirements apply regardless of the age of the structure. Coast Guard lead protection program requirements for general industry, shipyards and construction work are contained in Chapter 27.

Chapter 12 provides asbestos requirements for other than Coast Guard controlled housing and child development centers.

(2) A number of states have laws for asbestos, lead or radon that are more stringent than the requirements in this chapter. In those states, state law takes precedence over the requirements of this chapter.

b. Inspection, Sampling and Analysis Protocols.

(1) Asbestos. Only inspectors certified per the requirements of Reference (q) are authorized to conduct asbestos inspection and sampling. Laboratories accredited by the National Institute of Standards and Technology's National Voluntary Laboratory Accreditation Program (NVLAP) must analyze asbestos samples. See Chapter 12 of this Manual for additional requirements.

(2) Lead-Based Paint (LBP) and Lead in Dust.

(a) A certified Lead Inspector or Risk Assessor per References (i) and (s) guidelines must conduct inspections and sampling. Laboratories accredited under the EPA National Lead Laboratory Accreditation Programs (NLLAP) are approved to test lead samples. Only a certified Lead Risk Assessor is authorized to interpret and make recommendations of sampling results.

(b) Licensed renovators or licensed firms performing renovations must use the new EPA-developed pamphlet titled "Renovate Right" found in Reference (s).

(c) Coast Guard personnel are only allowed to conduct minor repair and maintenance activities. Minor repairs and maintenance activities are defined as activities that disturb 6 sq. ft. or less of painted surfaces per room for interior activities; 20 sq. ft. or less of exterior activities, and do not involve window replacement. Subpart E of Reference (s) provides more details.

(3) Lead in Soil. A certified Lead Inspector or Risk Assessor must conduct soil sampling for lead per References (r) and (s). Laboratories accredited by EPA NLLAP must analyze the samples.

(4) Lead in Water. Drinking water inspection, sampling and analysis for lead must be conducted per the requirements of Reference (t).

(5) Radon. Sampling and analysis must be conducted per the guidelines set forth in References (u) and (v), using EPA recommended testing devices.

c. Risk Levels/Finding. Assess risks posed by Asbestos-Containing Material (ACM), lead, and radon in pre-1981 Coast Guard controlled housing and child development centers using the following risk levels/findings:

(1) Monitoring Level. At this level, the concentration or physical condition of lead, asbestos or radon does not pose a health risk to persons or does not require corrective actions. The material however; must be periodically monitored to ensure that conditions have not changed. Risks identified at or above the monitoring level must continue to receive an annual visual assessments/follow-ups by the Area Housing Officer or Local Housing Officer (AHO or LHO). Any changes in condition must be reported to the Owned Housing Maintenance Coordinator (OHMC) for immediate action. Unit Commanders must implement and track an occupant disclosure system, implement timely control measures, follow-up to verify the effectiveness of controls, and track the current status of the risk.

(2) Action Level. The concentration or physical condition may pose and increased human health risk. Findings at the action level require corrective actions per paragraph B.6.d of this chapter, to reduce the level to/or below the monitoring level.

(3) Major Finding. At a major finding level, the concentration or physical condition presents an immediate health risk to occupants and requires immediate corrective action.

d. Environmental Risk Assessment (ERA) Standards.

(1) Asbestos.

(a) Monitoring Level. ACM and Presumed Asbestos Containing Material (PACM), which are intact and have a low potential for disturbance, are classified as category 7 per Reference (q) hazard assessment guidelines.

(b) Action Level. ACM or PACM that are classified fair (damaged) or have moderate potential for damage, are classified as category 5 or 6 per Reference (q) hazard assessment guidelines. Airborne asbestos fiber concentrations are less than 0.01 fibers per cubic centimeter (f/cc).

(c) Major Finding. ACM in poor (significantly damaged) condition or if the ACM has a high potential for significant damage; or is classified as category 1-4 using Reference (q) hazard assessment guidelines; or sampled airborne asbestos fiber concentrations greater than 0.01 f/cc.

(2) Lead in Paint.

(a) Monitoring Level. Interior or exterior paint is classified at this level if it has a lead content greater than or equal to:

[1] 1.0 milligram per centimeter square (1.0 mg/cm^2) as determined by an XRF gun, or

[2] 0.5% by weight as determined by lab analysis of paint chip; and the entire surface is intact when assessed using Reference (s) guidelines.

(b) Action Level. Interior or exterior paint is classified at this level if it has a lead content greater than or equal to:

[1] 1.0 mg/cm^2 or

[2] 0.5% by weight; and the paint surface is in fair or poor condition when assessed using Reference (s) guidelines.

(c) Major Finding. Interior or exterior paint is classified at this level if it has a lead content greater than or equal to:

[1] 1.0 mg/cm^2 by an XRF gun or

[2] 0.5% by weight; and the paint surface is in poor condition when assessed using Reference (s) guidelines and the area is used by at-risk member (pregnant woman and/or a child under the age of 7).

(3) Lead in Dust.

(a) Monitoring Level. Normally occupied interior areas found to contain lead dust:

[1] Floors (carpeted and uncarpeted). Less than 40 micrograms per square foot (40 ug/ft^2).

[2] Interior Window Sills. Less than 250 ug/ft^2.

[3] Window Troughs (Wells). Less than 400 ug/ft^2.

(b) Action Level. Normally occupied interior areas found to contain lead dust above the monitoring level:

[1] Floors (carpeted and uncarpeted). Greater than or equal to 40 ug/ft^2.

[2] Interior Window Sills. Greater than or equal to 250 ug/ft^2.

[3] Window Troughs (Wells). Greater than or equal to 400 ug/ft^2.

(c) Major Finding. Action Level conditions are met and at-risk member (small child and/or pregnant woman) use the area.

(4) Lead in Soil.

(a) Monitoring Level.

[1] Bare residential soil around building perimeters and yards. 400-1200 parts per million (ppm).

[2] Play areas and high-contact areas for children. 100 – 200 ppm.

(b) Action Level.

[1] Bare residential soil around building perimeters and yards. 1200 – 5000 ppm.

[2] Play areas and high contact areas for children. 200 – 400 ppm.

(c) Major Finding.

[1] Bare residential soil around building perimeters and yards. Greater than 5000 ppm.

[2] Play areas and high contact areas for children. Greater than 400 ppm.

(5) Lead in Water.

(a) Monitoring Level. Levels less than 15 micrograms per liter (ug/L) or 15 parts per billion (ppb) do not need to be monitored.

(b) Action Level. 15 – 20 ug/L or ppb.

(c) Major Fining. Greater than 20 ug/L or ppb.

(6) Radon.

(a) Monitoring Level. Levels less than 4 picocuries per liter (pCi/L) do not need to be monitored.

(b) Action Level. 4 – 10 pCi/L.

(c) Major Finding. Greater than 10 pCi/L present in interior areas.

e. Corrective Actions.

(1) Monitoring Level Findings. Monitoring Level findings must continue to receive visual re-assessment annually.

(2) Action Level Findings. Action Level findings present a moderate health risk to Coast Guard members and their families. Action Level findings must receive interim control that either manages the hazard in place or abates the hazard. At a minimum, the interim control measures must reduce the risk to the monitoring level. All action level findings must be abated within three years of initial identification.

(3) Major Findings. Major findings present a high health risk to Coast Guard members and their families. Major findings must receive immediate interim control measures. In addition, a corrective action plan must be instituted to abate the hazard within one year of identification. In cases where interim controls or abatement cannot be immediately initiated to adequately protect the Coast Guard members and at-risk family members, the family must be removed from the environment. At a minimum, any interim controls must reduce the risk to the monitoring level.

(4) Action. All asbestos and lead Major or Action Level findings must be corrected by contractors licensed to perform asbestos and/or lead work and not by Coast Guard personnel.

(5) Asbestos Mitigation. Asbestos mitigation work is only authorized for emergency situations and with prior approval from HSWL SC (se). Unless prohibited by state law, contracts must be developed using the philosophy of "manage in place" rather than removal once the hazard has been reduced to a monitoring level.

(6) Self-Projects. No self-projects that will impact lead-based paint or ACM shall be authorized.

(7) Radon Service Professional. A qualified radon service professional must correct all radon Major or Action Level findings.

(8) Shore Station Maintenance Record (SSMR). A Shore Station Maintenance Record (SSMR) must be initiated by Sector Commanders, COs/OICs for all Major or Action Level findings requiring abatement, which are above the AFC-30 dollar limit as set forth in Reference (w). The SSMR must be developed per Reference (x).

f. Emergency Activities. In cases of emergency renovations, statutory training and certification requirements can be waived by Commanding Officers, until the immediate threat is mitigated. Emergency activities are defined as activities that were not planned and, if not immediately attended to, present a safety hazard or threaten significant property damage; or interim controls performed in response to an elevated blood lead level in a resident child. Acute exposure resulting from emergency renovations must be documented in the member's medical file immediately and monitored as protocols dictate per Reference (gg).

g. Activities in CG Housing. OSHA classifies asbestos work into four classes (I – IV) within 29 C.F.R.1926.1101; Class I being the highest risk and IV being the lowest. Drilling holes for the purpose of hanging pictures or anchoring furniture is classified as "Class III asbestos work" and work practices and engineering controls are established. In addition, several states have specific protocols for drilling holes through ACM wallboard and/or joint compounds 29 C.F.R.1926.1101(g)(9)

establishes work practices and engineering controls for Class III work. Housing maintenance personnel should adhere to these practices when drilling holes.

(1) Units must develop written asbestos and lead control plans to include protocols and requirements for minor work such as drilling holes. Unit should consult HSWL SC (se) for assistance.

(2) Housing residents must obtain permission and work with local housing staff to anchor furniture or hang pictures in every instance that wallboard, mastic or other materials contain asbestos or lead paint.

(3) Housing Maintenance staff that wish to conduct minor work must be trained. In the cases where ACM and lead are both present, housing maintenance staff must have both trainings.

(4) Work must be completed in accordance with Coast Guard safe work practices, federal protocol, or state protocol; whichever is most stringent.

(5) Local housing staff should contact their District HSWL SC (se) detached SEHO if they need assistance on protocol selection or verification.

h. Blood Lead Screening, Testing and Follow Up. The parents of small children residing in CG controlled housing or using a CDC that has a lead hazard condition (Major or Action Level finding), must be encouraged to have a blood lead- screening test performed on the child. Testing is arranged and costs are borne by the Coast Guard. Small children who test at or above the CDC recommended maximum level of 5 micrograms per deciliter (5*u*g/dL) must be re-evaluated using established confirmatory testing for lead. If confirmatory testing also results in a blood lead level of 5ug/dL or higher and immediate control measures cannot be instituted, the child must be removed from the identified source of exposure. The cognizant SEHO, following References (r), (s) and (y) will initiate an Elevated Blood Lead (EBL) investigation. The child must be reevaluated using established confirmatory testing.

i. Re-Assessments.

(1) Annual Visual Re-Assessments. Annual visual re-assessment must be conducted in all housing where lead or asbestos is known to be present. Re-assessment might be necessary when the AHO, LHO, or OHMC detect a change in the condition from the initial or baseline ERA or when unapproved work has been conducted on a known lead or asbestos surface. HSWL SC (se) and/or the cognizant SEHO should be consulted to determine if the identified change in condition could result in an elevation (or reduction) in the health threat to occupants.

(2) Re-Assessments Conducted as Part of an Abatement Project. Re-assessments conducted as part of an abatement project must be conducted by a third party licensed EPA Lead Risk Assessor, Asbestos Inspector/Management Planner, and/or qualified radon service professional.

(3) Visual Inspections. HSWL SC (se) must review the Housing Management Information System (HMIS) ERA Database to ensure visual inspections are performed annually by AHOs, LHOs, or OHMCs to determine if there are changes in condition to identified hazards. Identified changes in condition must be brought to the attention of the responsible Civil Engineering Unit (CEU), and as needed, HSWL SC (se).

(4) Visual Inspections for Asbestos. Each visual re-assessment for asbestos must be documented by the OHMC in the O&M plan per Chapter 12 (Asbestos), of this Manual and annotated in HMIS ERA Database.

(5) Support and Technical Guidance. HSWL SC (se) will provide technical guidance and support to AHOs/LHOs where there are changes in material condition that could elevate the health risk of findings. Other support and technical guidance is available for EBL investigations and health education to residents.

j. Housing Training and Accreditation.

(1) Asbestos.

(a) Personnel Performing ACM Inspections and Management Planning. HSWL SC (se) personnel and Base OHMC performing ACM inspections and management planning must successfully complete an EPA accredited asbestos Inspector/Management Planner and/or appropriate approved training courses and receive and maintain the corresponding certification.

(b) In accordance with 29 C.F.R. 1926.1101, Base OHMC performing Class III work must be trained.

(2) Lead-Based Paint (LBP) Inspection and Risk Assessments.

(a) HSWL SC (se) personnel and Base OHMC performing LBP inspections and risk assessments must successfully complete an EPA accredited LBP Inspector/Risk Assessor course (and/or appropriate State approved training courses), and receive and maintain the corresponding certification.

(b) In accordance with paragraph B.j.(4), OHMC performing housing inspections must complete CG's ERA Lead, Asbestos, and Radon (ERA LAR) housing inspector course.

(3) ACM/LBP Planning. Personnel Assigned to billets tasked with planning ACM/LBP program compliance activities should complete the training courses described in paragraph B.j.(1)(a) and B.j.(2)(a) to provide essential technical guidance and general awareness information.

(4) Housing Inspectors. All Housing Inspectors must complete the CG's Housing Inspector course ERA Lead, Asbestos and Radon (LAR) Housing Inspector course (TQC Course Code #501591).

(5) Training Costs. The Housing Inspector training costs are requested in Commandant (CG-113) annual AFC-56 training budget request with quota requests from Commandant (CG-1333).

(6) Recertification.

(a) EPA recertification must be conducted per schedules in References (q) and (s).

(b) CG LAR ERA recertification must be conducted every five years after completion of initial training.

k. Disclosure.

(1) Assessed Houses. Disclosure of ERA findings (LAR – Lead, Asbestos and Radon) to occupants of Coast Guard controlled housing must be per References (q), (s) and (v). CO's at all levels through their AHOs and LHOs, must provide disclosure letters per Reference (ee) to current occupants and all future occupants as follows:

(a) State health risks found in their assigned Coast Guard housing: asbestos, LBP, lead in dust, lead in soil, lead in water and/or radon, regardless of levels. Where findings have been completely abated, disclosure letters are not required.

(b) Identify the location(s) where asbestos, lead and radon risks were found.

(c) Disclose past and future planned abatement efforts; give specific dates of abatement, if known.

(d) Identify a point of contact if LBP or ACM become damaged or if the presence of radon is suspected.

(e) Outline the type of activities housing occupants should not participate in (sanding, drilling, etc.).

(2) Un-assessed Houses. If the assigned housing unit has not been physically assessed, disclosure letters should state: "Warning, housing built before 1981 may contain lead-based paint and/or asbestos. Based on statistical sampling of other similar housing in your area, LBP or asbestos may be found in (state locations)." In addition, state that, "Housing built at any time may contain radon. Radon may enter the home through cracks in solid floors, wall, construction joints, gaps in suspended floors, around service pipes, cavities inside walls, and

the water supply." Provide the occupants with the appropriate information pamphlets.

(3) Records. All disclosure letters must be signed and dated by the occupant acknowledging the environmental health risks. The local housing office will retain the original signed disclosure letter on file indefinitely per Reference (aa).

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must provide oversight of Environmental Health policy including, but not limited to the following:

a. Conduct evaluations of HSWL SC (se) to provide oversight of the Safety and Environmental Health (SEH) support program, and to gain insight into program areas that need assistance. These safety assurance assessments must be conducted every two years.

b. Assess the adequacy of safety and health programs, as well as, quality assurance activities to ensure compliance with OSHA standards and Coast Guard requirements. The assessment must provide an objective assessment of loss prevention efforts, as determined by analysis of accident or injury and illness data, records, and workplace evaluations.

c. Prepare a written report of evaluation findings and recommendations for HSWL SC (se). The report must contain:

(1) An overall evaluation of the activities in the SEH program;

(2) SEH program deficiencies observed; and

(3) Recommended corrective actions.

2. Chief, Military Personnel, Housing Division (CG-1333). Chief, Military Personnel, Housing Division (CG-1333) must:

a. Ensure oversight of the ERA disclosures in Coast Guard controlled housing.

b. Ensure an appropriate number of AHOs, LHOs, OHMCs and their representatives, are trained, accredited and maintain accreditation per the requirements of this Manual.

c. Coordinate through Shore Infrastructure Logistics Center (SILC) and with cognizant Civil Engineering Units (CEUs) to ensure that Coast Guard members and "at risk" family members are removed to temporary quarters if Major findings at Coast Guard controlled housing cannot receive immediate corrective action. Coast Guard members with "at risk" family members must not be assigned to quarters that have Major or Action Level lead findings.

d. With the assistance of HSWL SC (se) staff, jointly review the HMIS ERA Database to ensure visual inspections of Coast Guard controlled housing are being performed by AHOs, LHOs, and OHMCs.

3. Commanding Officer, Shore Infrastructure Logistics Center (SILC). Commanding Officer, Shore Infrastructure Logistics Center (SILC) must:

   a. Ensure that a thorough safety and hazard assessment is conducted before approving a lease of facilities to be occupied by Coast Guard members.

   b. Ensure that persons of firms performing renovations in Coast Guard Controlled housing or CDCs, provide a lead hazard education pamphlet no more than 60 days before renovation activities.

   c. Obtain a written confirmation of receipt of the lead pamphlet or a certificate of mailing from the post office 7 days prior to beginning renovation activities.

   d. For renovations in child occupied facilities or common access areas, ensure that informational signs are posted where they are readily visible describing the nature, locations and dates of renovations, and

   e. Retain all renovation records per Reference (aa).

4. Commanding Officers, Civil Engineering Units. Commanding Officers, Civil Engineering Units must:

   a. Ensure that Major finding conditions, which have been identified at Coast Guard controlled housing and CDCs (for which a SSMR has been submitted), are abated on a health hazard priority basis. Ensure funding sources are identified and abatement is completed for Major findings within one year.

   b. Ensure that Action Level conditions, which have been identified at Coast Guard controlled housing and CDCs (for which a SSMR has been submitted), are assigned the appropriate priority and funding source for abatement. Ensure Action Level conditions are abated within three years.

   c. Ensure all appropriate Federal and State regulations and National consensus standards are properly followed during the planning, abatement, clean-up and disposal of all hazardous waste.

   d. Ensure HSWL SC (se) is provided updated information regarding any proposed abatement work, completed abatement work, interim controls and any other relevant work being conducted regarding asbestos, lead and radon in Coast Guard controlled housing and CDCs.

   e. Ensure any lead and/or asbestos inspection, conducted in connection with a real property disposal action, be carried out per the requirements of Reference (z).

5. Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC) must:

   a. Provide assistance, funding, equipment, training and references to SEHOs to ensure they are able to provide services needed by units in their areas of responsibility (AOR).

   b. Provide the technical support and guidance regarding re-assessments of previously inspected Coast Guard controlled housing and CDCs.

   c. Work with parents and coordinate with unit or group Health Services Technicians to ensure small children living in Coast Guard controlled housing, or attending a CDC which has a lead hazard meeting the conditions of a Major or Action Level finding, are provided the opportunity to participate in blood lead testing and follow-up. As appropriate, initiate and conduct EBL investigations per References (i) and (y).

   d. Provide health education when and where appropriate.

   e. When requested, perform design reviews for Statements of Work (SOW) initiated by the SILC and Civil Engineering Units (CEUs) for completeness, protection of Coast Guard members and compliance with applicable Federal, State and local regulations.

   f. Assist Commandant (CG-1333) in reviewing the housing ERA database to ensure visual inspection records of Coast Guard controlled housing are being maintained by AHO and LHOs and their staff.

   g. Evaluate units regarding compliance with this Manual during routine unit visits.

   h. Evaluate habitability of all appropriate areas as part of routine support visits.

   i. Evaluate swimming pool, spa, wading pool, and training tank sanitation as part of routine support visits.

   j. Evaluate pest management programs as part of routine support visits.

   k. Ensure that vessels that travel overseas are inspected and receive Ship Sanitation Control certificate every six months.

   l. Evaluate the operation of galleys and the food service sanitation program as part of routine support visits.

   m. Evaluate the water and wastewater program as part of routine support visits.

   n. Maintain equipment and references to provide services needed by units in their AOR.

   o. Provide assistance to units regarding the contents of this Manual.

   p. Provide units with assistance in evaluating conditions in berthing. This includes, but is not limited to ventilation and lighting surveys.

q. Provide units with assistance in evaluating proper sanitation of swimming pools, spas, wading pools, and training tanks.

r. Provide units with assistance in evaluating pest control issues and pesticide storage and application.

s. Provide units with assistance in maintaining a quality food service sanitation program.

t. Provide units with assistance in maintaining a proper operation and sanitation of their water and wastewater program.

u. Prepare a written report of evaluation findings and recommendations for the unit Command and copy the next level in the unit's chain-of-command, the Sector Safety Manager (SSM), District SARM Committee, Commandant (CG-113), and any command that must control or eliminate identified hazards.

v. Manage the Ship Sanitation Certificate program to ensure compliance with CDC/WHO.

6. Sector Commanders and Commanding Officers (COs). Sector Commanders and Commanding Officers (COs) must:

a. Determine if their Coast Guard controlled housing or CDC is meeting the scope of this Manual.

b. Initiate immediate response actions for Major and Action Level findings in the form of interim control measures. Coordinate such actions with their AHO, CEU and the cognizant HSWL SC (se) SEHO.

c. If needed, initiate SSMRs for Major and Action Level findings as soon as immediate response actions are required.

d. Work with AHO, CEU, HSWL SC (se) (and SEHO) to implement long term plans for the management of LAR hazards.

e. Consult with CEU to ensure that appropriate and timely corrective measures are implemented to abate any identified hazards.

f. Implement response actions provided to control Major and Action Level findings on a health hazard priority basis. Prioritization within these categories of findings are needed to ensure imminent hazards are eliminated in a timely fashion and recommended follow-up activities, such as blood lead testing of children, is conducted without delay.

g. Ensure that residents of Coast Guard controlled housing and those who use CDCs are kept informed of efforts to identify, assess and correct any identified asbestos, lead or radon hazards.

h. Work with AHO, District Planner, Base Commanders, SILC and CEUs to ensure unit housing, identified as meeting Major or Action Level finding conditions, are assigned the proper priority for correction and, where appropriate, are included on the unit's engineering backlog.

i. Ensure that habitability conditions at the unit meet the standards of this Manual.

j. Ensure the proper operation and safety of swimming pools, wading pools, spas, and training tanks at their unit per References (e), (g), and (h).

k. Establish pest management programs as specified in this Manual to ensure the health of personnel and dependents, and to protect real and other property.

l. Ensure that all pesticide applicators have received appropriate training and certification per this Manual. This includes contractors that apply pesticides at the unit.

m. Use IPM as the first line of defense for pest control. Chemicals are used only as a last resort.

n. Establish an effective food service sanitation program as specified in this Manual and Reference (m) to ensure the health of all personnel who use the galley or other food services at the unit.

o. Establish a water and wastewater program as required at the unit per this Manual and Reference (e).

p. Standards for other facilities, including campgrounds, picnic areas, play grounds, gymnasiums, and theaters are found in Reference (e).

7. Base Commanders and Area Housing Authorities. Base Commanders and Area Housing Authorities must:

a. Work with Sector Commanders, unit COs/OICs, AHOs, LHOs, and OHMCs to ensure that residents of Coast Guard controlled housing and CDC staff are aware of:

(1) Potential hazards of LAR; and

(2) Measures they can take, as well as measures being taken by the Coast Guard, to control or abate these hazards.

b. Immediately contact the appropriate HSWL SC (se) detached SEHO when there are questions or concerns regarding the presence of radon, or the deterioration of physical condition of the lead and ACM from that described in previous inspection reports. Non-destructive sampling of materials containing or thought to contain lead or asbestos and/or radon testing might be necessary to verify the presence of a hazardous condition. Training requirements for lead and asbestos vary from state to state. The

appropriate HSWL SC (se) detached SEHO should be contacted for State specific information.

c. Area Housing Authorities must ensure that all personnel in their AOR who inspect and maintain Coast Guard owned housing, complete the Coast Guard Housing Environmental Risk Assessment (ERA) Course. Newly assigned housing inspectors, maintenance personnel, Area and local Housing Officers must be given highest priority for ERA training. Area and Local Housing officers are required to complete ERA training every five years after completion of initial training. Local Housing Officers must be given priority over Area Housing Officers for initial and subsequent ERA training.

d. Base OHMC must be responsible to ensure LHOs are visually inspecting Coast Guard controlled housing for the condition of the LBP and ACM and proper entries are made in the HMIS ERA Database.

8. Local Housing Officers (LHOs). Local Housing Officers (LHOs) must:

a. Complete the Coast Guard's Housing Inspector course, ERA LAR Housing Inspector course (PMIS# 501591); with a recertification every 5 years.

b. Visually inspect Coast Guard controlled housing for the condition of LBP and ACM to include both suspected LBP and assumed ACM in conjunction with the annual or pre-inspection housing inspections.

c. Immediately contact their AHA/AHO or OHMC with questions or concerns regarding deterioration of LBP and ACM.

d. Obtain a signed disclosure letter prior to the initial occupant's acceptance of quarters.

9. Supervisors. Supervisors must ensure that employees are not exposed to the environmental health hazards as outlined in this Chapter. Supervisors of personnel who work in areas known to contain lead and/or asbestos must inspect these spaces daily to ensure that the integrity of containment/encapsulation methods is not compromised.

10. Employees. Employees who work in spaces known to contain the hazards outlined in this Chapter must ensure that they have received instruction that allows them to properly identify the hazard. They must also ensure that these hazards are properly labeled, per the provisions of this Chapter and that if conditions of the labeled hazardous material change, the change must be reported to the assistant safety officer or supervisor.

CHAPTER 26 INDUSTRIAL HYGIENE PROGRAM

References:

(a) 29 C.F.R. § 1910.1000, Subpart Z, "Toxic and Hazardous Substances"
(b) American Conference of Governmental Industrial Hygienists, "Documentation of the Threshold Limit Values and Biological Exposure Indices," latest revision.
(c) National Institute for Occupational Safety and Health, "Pocket Guide to Chemical Hazards," latest revision.
(d) Coast Guard Occupational Medicine Manual, COMDTINST M6260.32 (series)
(e) American Industrial Hygiene Association (AIHA) "A Strategy for Occupational Exposure Assessment," latest revision.
(f) Industrial Hygiene Field Operations Manual, NEHC Technical Manual, NEHC-TM6290.91-2
(g) NIOSH Recommendations for Occupational Safety and Health, Compendium of Policy Documents and Statements, DHHS (NIOSH) Publication 92-100.
(h) Navy and Marine Corps Public Health Center (NMCPHC), "Isocyanate Guidance," August, 2012.
(i) 29 C.F.R. § 1910.97, Ventilation
(j) Industrial Hygiene Tactics, Techniques, and Procedures (TTP); CGTTP 4-11.7

A. Discussion.

1. Background. The Industrial Hygiene (IH) anticipates, recognizes, controls, and prevents hazards from work that may result in injury, illness, or affect the well-being of workers. These hazards include exposures to toxic chemicals (i.e. isocyanates, lead, chromium, etc.), biological and harmful physical agents (i.e. noise, radiation, vibration etc.). This Chapter, per References (a) through (j), applies to the:

   (a) IH component of the Coast Guard (CG) OH program.

   (b) The use of isocyanate-containing products.

   (c) Reference (d) provides details regarding the Coast Guard occupational medicine program for all Coast Guard employees to include occupational medical surveillance and evaluation program (OMSEP).

2. Application. This chapter applies to all Coast Guard personnel. It provides general policy for occupational exposure management and specifically addresses the use of isocyanate-containing products such as: polyurethane, polyurea and polyurea/polyurethane hybrid coatings for aircraft and buoy maintenance.

B. Program Requirements.

1. Industrial Hygiene Program. IH personnel anticipate, recognize, evaluate, and develop recommendations to control potential health hazards and unacceptable occupational exposures by:

a. Assessing potential exposures and health risks faced by Coast Guard personnel within their work environment.

b. Developing control measures for work place exposures.

c. Establishing and documenting a historical record of exposure levels for Coast Guard personnel and communicate exposure monitoring results.

d. Ensuring and demonstrating compliance with safety and health exposure criteria.

e. Providing a basis for medical surveillance examinations.

2. Exposure Assessments. The occupational exposure assessment strategy begins with a plan for recognizing, evaluating, and documenting all exposures within the context of IH, and for developing controls for occupational exposures that are deemed unacceptable. The following steps are used to implement a functioning occupational exposure assessment program:

a. Characterization of the Work Place (Walk Through Survey). Characterizing the workplace, workforce, and associated hazards establishes the foundation of an exposure assessment strategy. The outcome provides a complete summary of essential information on workers, tasks, agents, potential exposures, and potential health effects. At a minimum the basic workplace characterization must capture:

(1) Description of operations including tasks and work practices that take place in the workplace along with number of persons assigned to the operation/task and the specific work area(s) occupied. Note the frequency and duration of events taking place within the work place.

(2) Listing of hazardous materials (HAZMAT) used in the work place that presents significant risk and description of use. Contact the cognizant HSWL SC (se) Safety and Environmental Health Officers (SEHO) for assistance.

(3) Listing of physical hazards in the workplace that present significant risk and description of their sources, see Chapter 4 of this Manual for additional information.

(4) Description of existing controls.

b. Exposure Groups. Define exposure groups by using/interpreting information gathered from the basic workplace characterization, historical sampling data, exposure assessment/Health Risk Assessments (HRAs) performed by SEHOs etc. The outcomes include: groupings of workers having similar exposures, definition of an exposure profile for each similarly exposed group, and judgments about the acceptability of each exposure profile.

(1) Define Similar Exposure Groups (SEGs). Group workers having the same general exposure profile because of the similarity and frequency of the tasks they

perform, the materials and processes with which they work, and the similarity of the way they perform the tasks.

(2) Define Exposure Profiles for Each SEG. Use all quantitative and qualitative data to determine the degree of personnel exposure (i.e. estimate the exposure intensity and how it varies over time for each SEG). Estimate actual exposure levels for the SEG whenever feasible. Exposure monitoring is the primary means of determining exposure levels.

(3) Judge Acceptability of the Exposure Profile for Each SEG. Judge the SEG exposure profile as acceptable, uncertain, or unacceptable. Determine and document the rationale for each judgment. Evaluate and determine the adequacy of the existing controls. HSWL SC (se) provides additional guidance regarding acceptable exposure profiles.

(4) Recommend Control Strategies. Make recommendations regarding the work place, work force, and environmental agents based on the results of the exposure assessment by using accepted IH practices, which comply with relevant regulatory requirements contained in References (a) through (g).

c. Further information gathering. For exposure profiles that are not well understood, or for which acceptability judgments cannot be made with high confidence, then it must be further characterized by collecting additional information. Information needs are quantitative or qualitative depending on the exposure profile and judgment.

(1) Quantitative Exposure Monitoring. Monitoring the work place for toxic substances and/or harmful physical agents is the primary means of assessing:

(a) Personnel exposures.

(b) The need to control exposures.

(c) The effectiveness of measures directed at reducing or eliminating health hazards.

(2) Qualitative Exposure Decision. Examples include exposure modeling, biological monitoring or determining an appropriate Occupational Exposure Level (OEL). After determining what information is required, gather and evaluate data so that an acceptable or unacceptable exposure assessment determination can be reached and appropriate controls and recommendations can be implemented.

d. Communications and Documentation. Exposure assessment reports and records are critical elements of the exposure assessment process. Reports and records must be maintained to effectively communicate workplace findings and successful continuity of the IH program.

e. Reassessment. Conduct periodic re-assessments and provide written reports for each serviced activity. Periodic assessment must be based on the hazard and exposures. At

a minimum, hazardous (industrial) worksites or processes must be re-assessed annually. HSWL SC (se) can specify more frequent evaluations for the specific workspaces or processes depending upon the IH exposure assessment.

3. Occupational Exposure Limits (OELs). OELs are values which represent the level (concentration) to which it is believed a worker can be safely exposed to a chemical during a workday over the course of a working lifetime without adverse health effects. Compliance with OEL values must be determined from personal breathing-zone air samples. The most commonly referenced industry standard OELs are:

   a. Permissible Exposure Limit (PEL). PELs represent statutory exposure limits as defined by Occupational Safety and Health Administration (OSHA). Employee exposure to any substance listed in Reference (a) must not exceed the exposure limits specified. PELs are expressed as 8-hour Time Weighted Averages (TWA) unless otherwise noted.

   b. Threshold Limit Values (TLV). TLVs are exposure limits published by the American Conference of Governmental Industrial Hygienists (ACGIH) as outlined in Reference (b). TLVs are based on available toxicology and epidemiology data and are updated yearly to reflect newest and most-current data. Like PELs, TLVs are expressed as an 8-hour TWA unless otherwise noted; and are typically more stringent than PELs. TLVs are consensus standards developed by Certified IHs and are not statutory (see Chapter 2 of this manual).

   c. Recommended Exposure Limits (REL). RELs are OELs recommended by the United States National Institute for Occupational Safety and Health (NIOSH) to OSHA for adoption as PELs. RELs are expressed in the same fashion as PELs and TLVs. RELs are not statutory. See Reference (c) for RELs.

4. Exposure Limits for Coast Guard Military and Civilian Personnel. All federal agencies are required to not exceed the PEL values as outlined in Reference (a). These values represent the statutory requirement; non-compliance with these values could result in punitive action. Coast Guard units must strive to maintain exposures below the more stringent of the industry accepted published OELs outlined in Section B.3 of this Chapter, and as such recommends following the most stringent standard

5. Occupational Medical Surveillance and Evaluation Program (OMSEP). Standards must specify enrollment criteria. Where standards do not exist, personnel who meet the requirement of being exposed at or above the Coast Guard Medical Surveillance Criteria or 50% of the OEL for over 30 days per calendar year (whichever is more stringent) must be enrolled in the medical surveillance program. For more information regarding OMSEP refer Reference (d).

6. Access to and Retention of Sampling Records.

   a. Individual exposure monitoring information must be forwarded to the cognizant medical clinic for review and placement into the individual's medical record. Reference (d) provide civilian occupational exposure policies and OMSEP guidance.

b. Survey, evaluation and sampling records must be maintained for a minimum of 40 years (except where specific applicable standards require retention for a longer time).

c. Requests to access employee records by Coast Guard personnel (Active Duty or Civilian) or by their designated representative must be provided in a reasonable time, place and manner as required by Reference (d).

d. Sampling records must be documented and retained. Further information is available by contacting HSWL SC (se).

7. Isocyanate-Containing Materials. Isocyanate-containing coatings such as polyurethane; polyurea or polyurethane/polyurea hybrid coatings provide a weather resistant, colorfast topcoat for protecting surfaces from abrasion and corrosion. These coatings are described as one-part or two-part systems. The one-part system such as polyurethane coating is further classified as either moisture-cured or heat-cured. These coatings present no health hazard once cured; however, isocyanate vapors and mists can be released during preparation, application and curing stages. Two-part systems present the greatest potential for exposure to isocyanate vapors and mists. Common examples found in coatings are toluene diisocyanate (TDI) and Hexamethylene diisocyanate (HDI).

a. Definitions. In this chapter, isocyanate-containing materials are defined as follows:

(1) Heat-Cured Polyurethane System. Either a one-part or two-part system where heat must be used to release a chemical agent (called blocking agent) from polyisocyanate. In the absence of the blocking agent, polyisocyanate then reacts with a polyol.

(2) Moisture-Cured Polyurethane. One-part polyurethane in which curing process occurs by the reaction of polyisocyanate with moisture present in the atmosphere. This reaction results in the production of amine compound, which further reacts with the remaining isocyanate to form urea.

(3) One-Part System. A system where the isocyanates are pre-polymerized, so that very little of free isocyanate remains.

(4) Polyurea. The product of a reaction between a polyisocyanate and amine terminated resin compounds.

(5) Polyurethane. The product of the reaction between polyisocyanate and a polyol.

(6) Polyurethane/Polyurea Hybrid. The result of a chemical reaction between polyisocyanate and a mixture of polyol and amine terminated resins.

(7) Two-Part System. The two-part systems contain un-reacted polyisocyanate and a polyol or polyamide resin in separate containers, which are mixed together immediately preceding application.

b. Heath Effects. Isocyanate exposure can cause skin, eye, and respiratory (nose, throat and lung) irritation. It can also lead to skin and lung sensitization. Sensitization is a hyper-reactive (allergic-like) response to a substance. Sensitization can develop after only one exposure. Once sensitized, subsequent exposures to very small amounts of isocyanates can cause severe allergic (asthma-like) symptoms that can lead to death. Persons sensitized to isocyanates must no longer work with or in areas where there is potential for exposure to isocyanate vapors or mists.

c. Exposure Limits. Although there is a potential for exposure to polyisocyante aerosols rather than individual monomers, workers may still be potentially exposed to unreacted monomers. Reference (b) establishes a Threshold Limit Value (TLV) for the monomers such as TDI, methylene bisphenyl isocyanate (MDI) and HDI as an 8-hour TWA. Per Reference (h); exposures to polyisocyante may be compared to Oregon/Bayer occupational exposure standard for polyisocyanates of 1 mg/m3 for short-term exposure limit (STEL) or 0.5mg/m3 TWA.

d. Authorized Use.

(1) Two-part polyurethane coating systems are only authorized for use on Coast Guard aircraft and as topcoat paint for Aids to Navigation (AToN) equipment. These coatings are not authorized for the exterior or interior of cutters, boats, ground support equipment or any other equipment.

(2) Only HSWL SC (se) authorized CG personnel and qualified contractors shall apply two-part coating systems.

(3) One-part (moisture-cured or heat-cured) coating systems may be used in accordance with the instructions listed on the coating manufacturer's safety data sheets (SDS).

e. Personal Protective Equipment (PPE). Minimum PPE requirements are as follows:

(1) Spray applications. The following PPE is required:

(a) Full face, type C, continuous flow air-supplied respirator that meets the requirements in Chapter 9 of this manual.

(b) Protective coveralls with sleeves taped at the wrists.

(c) Solvent-resistant gloves.

(2) Roller or Brush applications.

(a) Half-face air purifying respirator with organic vapor/paint mist cartridges. Respirator change out schedule must meet the requirements of chapter 9 of this manual.

(b) Protective coveralls

(c) Solvent resistant rubber gloves

(d) Full-face shield for eye and face protection.

f. Safe Work Practices. The safety data sheet (SDS) for the material should be thoroughly reviewed prior to start of the work. Safe work practices shall be observed for all operations that involve the isocyanate-containing materials. Whenever practicable, isocyanate-containing materials shall be applied by rollers or brush to reduce aerosol levels. Engineering and administrative controls shall include isolation of work area; conducting the operations during non-working hours; and the use of adequate ventilation. At a minimum, the following safe work practices shall be observed:

(1) Preparation and Clean-up. The mixing, preparation and transferring, loading and clean-up of isocyanate-containing materials shall be done in a place with adequate ventilation. Adequate PPE as listed in paragraph 2.e.(2) shall be used.

(2) Paint Spray Booth/Area. All painting operations shall be conducted in a paint spray booth/area that meets the requirements of Reference (i). Ventilation shall remain operational for a minimum of 30 minutes following spray paint application. During this period, personnel without PPE listed in paragraph 2.e.(1) shall not enter the area. Any application process that cannot be conducted in a paint spray booth must be evaluated and approved by HSWL SC (se).

(3) Outdoors Spray Painting. The use of outdoor spray painting should be discouraged and minimized to maximum extent practicable, to reduce the volume of fugitive emissions, as these emissions may be subject to regulatory controls/permitting. When spray painting outdoors, a minimum of 100 feet in all directions shall be roped off. Appropriate PPE shall be utilized.

(4) Personnel Hygiene. Procedures for decontamination and disposal of contaminated materials should be established prior to start of the work. At a minimum, personnel shall wash their hands and face or shower after applications to remove residual contamination.

(5) Spill Control. To avoid accidental spilling, containers shall be covered when not in use. Spills shall be cleaned up immediately in accordance with the manufacturer's SDS.

(6) Development of Safe Work Practice. Units should contact cognizant Safety and Environmental Health Officers for assistance in development of safe work practices.

(7) Training. Personnel assigned to work with isocyanate-containing materials shall be trained in appropriate work procedures; health hazards and use of product SDS.

(8) Medical Surveillance. In accordance with Reference (d), personnel exposed to isocyanate-containing materials at or above the Coast Guard Medical Surveillance criteria for 30 or more days per calendar year, shall be enrolled in the OMSEP. Units shall contact their OMSEP Coordinator for enrollment procedures.

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must:

   a. Oversee development and periodic update of policy concerning IH programs.

   b. Conduct annual program audits of HSWL SC (se) to assure compliance with this instruction.

   c. Ensure that resources necessary to implement IH monitoring programs are available.

2. Chief, Human System Integration (HSI) Division (CG-1B3). The Deputy Warranting Officer for HSI must ensure that applicable Technical Warrant Holders apply proper requirements and standards to the design and development of new systems, assets and platforms.

3. Commanding Officer, Health, Safety and Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC) must:

   a. Conduct initial comprehensive IH surveys of each work place to obtain information defined in Paragraph B. The survey should include: conducting a Job Hazard Analyses (JHA) to identify hazards and exposure risks; identify SEGs; establishing exposure profiles; making exposure judgments; conducting exposure assessments for all uncertain judgments; and recommending exposure controls to mitigate risks.

   b. Perform periodic IH surveys to validate established SEGs.

   c. Provide exposure reports to surveyed units.

   d. Forward individual exposure monitoring information to cognizant medical clinic for review and placement into the individual's medical record.

   e. Notify individual members (through their respective Commands) who are monitored, or their environment sampled etc. of the sampling results.

   f. Ensure that survey, evaluation and sampling records are maintained as required under Paragraph B.1.n.

   g. Provide other consultative IH support, as requested by unit commanders to meet the requirements of this chapter.

h. Conduct assurance audits to ensure exposure assessment programs at the Coast Guard Yard, Aviation Logistics Center (ALC), Strike Teams, and other units with professional IH capabilities comply with the requirements in this chapter.

i. Maintain documentation on:

(1) Work place hazard characterization

(2) Exposure profiles

(3) Exposure judgments and findings

(4) Health hazard controls

(5) Recommendations

(6) Reassessment frequency

j. Prepare and implement an exposure monitoring plan to:

(1) Fulfill regulatory sampling requirements.

(2) Collect sufficient data to allow for statistically valid exposure characterization.

(3) Track workplace exposures to determine trends.

(4) Validate professional judgments of unchanged exposure assessments.

(5) Obtain samples representative of actual exposures and to analyze the data collected to minimize any bias involved in the processed. Base the sampling plan on a sampling strategy, such as the one outlined in Reference (e). Standards must specify the frequency of monitoring. Where such standards to not exist, the SEHO/IH must use professional judgment to determine the frequency of monitoring.

4. Sector Commanders. Sector Commanders must:

a. Ensure subordinate units comply with IH program requirements.

b. Support completion of IH survey and exposure assessments.

5. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:

a. Provide a safe and healthful work place for their employees and coordinate with HSWL SC (se) for the provision of services described in this Chapter.

b. Re-evaluate work-place following any changes that have the potential to affect exposures. Units must establish procedures to ensure that HSWL SC (se) is notified of any such changes via contact with the cognizant SEHO.

c. Commanding Officers (COs) of Coast Guard Yard, Aviation Logistics Center (ALC), Strike Teams (i.e. units with resident IH capabilities) must maintain an exposure assessment program in accordance with the requirements in this chapter.

d. Ensure that personnel who are exposed to chemicals or biological hazards at or above the Coast Guard Medical Surveillance Criteria as listed in Chapter 12 of Reference (d) are enrolled in OMSEP.

6. Supervisors. Supervisors must:

a. Ensure that all chemical, physical and biological hazards in the workspace are identified and that employee exposures are characterized and documented.

b. Implemented control measures to reduce exposures below the OEL as required by this Chapter.

c. Substitute harmful products, whenever feasible, with less harmful products even when exposures are shown to be below exposure limits.

d. Ensure annual training is conducted for all employees working with or around hazardous exposures.

7. Employees. Employees must:

a. Be aware of all hazards present in the workspace and report potential exposures to chemical, physical or biological agents to the supervisor or unit safety personnel.

b. Properly wear and maintain PPE when required due to documented, chronic exposure to harmful agents

CHAPTER 27 LEAD HAZARD CONTROL PROGRAM

References:

(a) 29 C.F.R. § 1910.1025, "Lead (as amended)"
(b) 29 C.F.R. § 1926.62, "Lead in Construction"
(c) 29 C.F.R. § 1910.94, "Ventilation"
(d) American Conference of Governmental Industrial Hygienists Pub. No. 2096, Industrial Ventilation: A Manual of Recommended Practice, 27th Edition (NOTAL)
(e) American National Standards Institute (ANSI) Z9.2-2006, American National Standard for Fundamentals Governing the Design and Operation of Local Exhaust Ventilation Systems (NOTAL)
(f) UFC 3-410-04N of 25 Oct 04, Design: Industrial Ventilation
(g) UFGS-02 83 13.00 20, Lead in Construction, April 2006,
(h) UFGS-02 82 33.13 20, Removal/Control and Disposal of Paint with Lead, Feb 2010,
(i) 29 C.F.R. § 1910.134, Respiratory Protection
(j) Centers for Disease Control and Prevention, Guidelines for the Identification and Management of Lead Exposure in Pregnant and Lactating Women, November 2010
(k) Title 16 C.F.R. § 1303, "Ban of Lead-Containing Paint and Certain Consumer Products Bearing Lead-Containing Paint"
(l) Coast Guard Medical Manual, COMDTINST M6000.1(series)
(m) Hazardous Waste Management Manual, COMDTINST M16478.1 (series)
(n) 40 C.F.R. 745.223, "Definitions, Lead-Based Paint Poisoning Prevention in Certain Residential Structures"
(o) Lead Hazard Awareness and Management Tactics, Techniques and Procedures (TTP), CGTTP 4-11.6

A. Discussion. Lead defined in this Chapter, includes metallic lead, all inorganic lead compounds and organic lead soaps (e.g., lead naphthenate). Common uses for lead and lead compounds include: ballast, radiation shielding, rubber antioxidant, acoustical insulation component, electrical components and pipe joint solder, high voltage cable shielding, small arms ammunition, batteries, roof flashing, and weights.

1. Background.

a. Although lead-based housing paint has been banned, lead is commonly found in old buildings (pre 1978) and in industrial and traffic-related paints such as old polyurethane. Lead is frequently found in many industrial and residential paints, including polyurethane and water based paints.

b. Significant lead exposures can occur during: ballast handling; cutting ballast straps with torch or grinder; spraying, sanding, scraping, grinding, burning, welding and abrasive blasting, especially on components/equipment with lead based coatings or lead alloys; bullet trap clean-out/general cleaning at small arm firing ranges (SAFR); repairing

electronics with lead solder; and cleanup or handling of lead-contaminated debris and clothing. Needle gunning or sanding and grinding paint that contain lead can also lead to exposures.

c. Lead is a recognized health hazard. Lead overexposure can damage many organ systems, especially the brain nervous system, kidneys, reproductive system, and inhibit heme synthesis (red blood cell production). The Coast Guard recognizes the serious health hazards associated with lead exposure and has established strict controls for processes that can potentially expose personnel to these hazards.

2. Application.

a. Coast Guard units must apply standards and controls discussed in this Chapter to all personnel ashore and afloat. The provisions of this Chapter apply to lead exposures in general industry, shipyards, and construction work, and supplement References (a) and (b). Work which falls under the Occupational Safety and Health Administration (OSHA) construction standards (e.g., construction, demolition, renovation, or repair of structures), must follow the requirements in Reference (b).

b. Construction work covered by Reference (b), includes any repair or renovation or other activities that disturb in place lead-containing materials (LCM) (e.g., steel structure renovation and repair), but does not include routine cleaning and repainting (e.g., minor surface preparation and repainting of rental apartments between tenants or at scheduled intervals, routine cleaning of cutters with lead ballast ingots) where there is insignificant damage, wear, or corrosion of existing lead-containing paint, coatings, or substrates.

c. Coast Guard personnel are prohibited from performing lead abatement except while responding to an operational emergency while underway.

d. Except as indicated in Paragraph A.2.e, employees performing maintenance activities not associated with construction work which might have the potential to cause occupational exposure to personnel are covered by the general industry standard for lead, Reference (a). Maintenance activities covered by the general industry standard are those that involve making or keeping a structure, fixture, or foundation in proper condition in a routine, scheduled or anticipated fashion.

e. For maintenance of lead containing materials in Coast Guard controlled housing and Child Development Centers, consult Chapter 25 of this Manual.

f. Additional regulations, standards and guidance applicable to this Chapter are provided in References (d) through (o).

B. Program Requirements.

1. Lead Control Program Implementation.

a. All shore, afloat and aviation units and activities must develop and implement a written program per Reference (o) to reduce employee exposures to at or below the permissible exposure limit.

b. Units must maintain an inventory of all unit-identified lead-containing materials including lead surface per Reference (o).

c. Further information regarding compliance with and implementation of lead control program requirements is available by contacting HSWL SC (se).

2. Exposure Criteria.

a. Permissible Exposure Limit (PEL). The PEL for an 8-hour time-weighted average (TWA) exposure to airborne lead is 50 micrograms per cubic meter ($\mu g/m^3$) of air.

b. Action Level (AL). The AL for an 8-hour TWA exposure to airborne lead is 30 $\mu g/m^3$ (without regard to respirator use). Exposure to airborne lead at or above the AL, for more than 30 days per year, must trigger biological monitoring and medical surveillance. Refer to Paragraph B.15 for medical surveillance requirements.

3. Clearance Dust Standards.

a. In evaluating the cleanliness of surfaces:

(1) In hygienic areas such as change areas, classrooms, offices, berthing spaces, messing facilities, lunchrooms/eating areas etc., the level of acceptable decontamination is 40 micrograms per square feet (μg/ft2) per 40 C.F.R. § 745.227.

(2) In non-hygienic areas such as ship bilges; firing ranges, armory, etc., units shall use available Maintenance Procedure Cards (MPCs) and/or Lead Hazard Awareness and Management Tactics, Techniques and Procedures (TTP), Reference (o), for guidance on acceptable surface decontamination thresholds. If MPCs or TTP are not available, units shall maintain surfaces as free as practicable of lead dust.

b. Dust samples must be collected using wet wipes. The recommended protocol for sample collection is American Society for Testing and Materials (ASTM) Standard Practice E 1728, "Standard Practice for Field Collection of Settled Dust Samples Using Wipe Sampling Methods for Lead Determination by Atomic Spectrometry Techniques." Other acceptable protocol include the Appendix 13.1 of HUD 2012 Guidelines, "Wipe Sampling of Settled Dust for Lead Determination," and EPA report, "Residential Sampling for Lead: Protocols for Dust and Soil Sampling," March 1995 (EPA, 1995a).

c. Dust samples must be analyzed by laboratory methods such as atomic absorption spectroscopy, inductively coupled plasma-emission spectroscopy, laboratory XRF using standard methods, or other equivalent analytical methods. Only laboratories that

participate in a national proficiency testing program and are recognized by EPA must be used.

4. Abatement Contracts.

   a. Except as noted in Paragraph A.2.c and e of this Chapter, all lead abatement projects must be contracted to companies meeting the requirements in Reference (b).

   b. The contractor must control lead dust outside of work boundary to less than 30 $\mu g/m^3$ at all times. In addition, the controlled work area (s) must meet these criteria prior to release for unrestricted access. Contractor must provide copies of monitoring results to the Unit.

   c. For lead abatement contracts, the acceptable post abatement clearance level is at or below levels specified in Paragraph b.3.a. The contractor must use a third party consultant to certify specified clearance standards are met. Contractor must provide copies of results to the unit.

5. Abatement Definitions. Lead abatement activities are formally defined in Reference (n). Additional guidance is available in Reference (o) or through your regional Safety and Environmental Health Officer (SEHO). A lead abatement project as defined under the provisions of this Chapter is any specialized activity designed to eliminate or remove lead for removal sake. The following examples are provided to assist Coast Guard personnel prior to conducting activities that may be considered lead abatement.

   a. The following are considered examples of lead abatement activities: removal of lead paint from a vessel; removal of a window containing lead.

   b. The following ARE NOT considered lead abatement activities: Lead soldering of aircraft parts that contain lead; removal of metal surfaces that contain lead paint from a vessel. These examples are incidental to the activity.

6. General Workplace Control Practices.

   a. Coast Guard units must make every effort to only use non-lead paint. When non-lead paint is an absolute non-feasible option, units must use paints, coatings systems, adhesives etc. containing less than 0.009 percent lead by dry weight unless the cognizant headquarters command specifically approves higher lead content paint.

   b. Areas, structures and vessels painted with paints or coating systems containing any amount of lead must be documented in writing with date, location, approximate square feet, and the Safety Data Sheet (SDS) of the paints attached.

   c. Prior to proceeding with work involving paint or coatings, units must determine if lead is a constituent of the paint/coatings. This can be accomplished via testing of the paint using a valid laboratory method, or through established and accurate records which provide the needed information (e.g., paint application records coupled with lead

content data from SDS, product labels, prior testing results, or other valid documentation).

d. When feasible, units must minimize the heating of lead and leaded materials through the use of thermostatically controlled heating (below 600°F) or the removal of lead containing surface coatings or contaminants prior to heating.

e. Units must implement engineering, work practice and administrative controls to the extent feasible to reduce the exposure to below the PEL when an employee's exposure exceeds the PEL for more than 30 days per year. Wherever the engineering and work practice controls are not sufficient to reduce employee exposure to or below the permissible exposure limit, the employer must use engineering controls to reduce exposure to the lowest feasible level and supplement them by use of respirators.

f. Units must refer to paragraph B.3 of this chapter to establish procedures to maintain work surfaces as free of lead dust as is practicable. Units must clean up lead dust with High Efficiency Particulate Air (HEPA) filtered vacuum cleaners and/or use wet sweeping and brushing. Do not use compressed air to clean work surfaces or work floors.

g. Units that have lead containing waste, scrap, debris, containers, equipment, and clothing consigned for disposal must collect it, seal it in impermeable containers, and label waste per Paragraph B.9.b.

h. To minimize exposure potential, units must isolate hot work on lead and abrasive lead removal operations to the extent feasible, from other operations.

i. Mechanical exhaust ventilation is frequently required to ensure that atmospheric levels of lead particulate do not exceed the PEL. Units must maintain local exhaust ventilation and dust collection systems per References (c) through (f).

j. Units must test ventilation systems used to control lead exposures or emissions using qualified engineering or industrial hygiene personnel at least every 3 months and within 5 days of any production, process, or control change that might result in a change in employee exposure. Where devices such as manometers, pitot tubes (a device to measure fluid flow velocity), etc., are installed to continuously monitor the effectiveness of ventilation systems, units must instruct employees who use the system on the meaning and importance of the measurements and to immediately contact their facility engineer if the measuring devices indicate a malfunction. Where devices to measure fluid velocity are in place, industrial hygiene or engineering personnel only need to inspect the ventilation systems annually.

k. Units using ventilation systems to control occupational exposures or emissions must not re-circulate air from operations generating lead into any workspace. Air must be HEPA filtered before exhausted directly to the atmosphere. The base/activity environmental manager must approve the air pollution control system after consulting with the cognizant air pollution regulatory agency.

7. Personal Protective Clothing and Related Control Facilities.

   a. Personnel engaged in operations where the concentration of airborne lead particulates is likely to exceed the PEL or where the possibility of skin or eye irritation exists, must remove clothing worn to and from work and wear the protective clothing provided by the Coast Guard. Employees must use waterproof clothing when handling wet lead.

   b. Units must provide change rooms as close as practical to the lead work area(s) for employees who work where the airborne lead exposure is above the PEL (without regard to the use of respirators). Change rooms must be maintained under positive pressure with respect to adjacent lead work areas. Protective clothing removal procedures must be posted in the change room. Removal of lead particles from clothing by blowing or shaking is prohibited.

   c. Employees exposed to airborne lead concentrations above the PEL (without regard to respirator use) must shower at the end of the work shift prior to entering the clean change room. Units must provide clean change rooms incorporating showers within or adjacent to them for employees who work in areas where their airborne exposure to lead is above the PEL. Change rooms must have two separate clothing lockers for each employee to prevent contamination of street clothes and to ensure that employees do not leave wearing any clothing or equipment worn during their work shift. Supervisors must ensure that employees shower at the end of their work shift.

   d. Employees must not take lead contaminated clothing home to be laundered. Units must launder lead-contaminated clothing in a manner to prevent release of lead dust. Contracts governing laundering of lead-contaminated clothing must specifically require that contractors comply with the precautions specified in Reference (a).

8. Respirator Protection.

   a. Limit usage of Respirators. Units must use engineering control measures; and not achieve compliance with PELs solely by the use of respirators, except under the following conditions:

      (1) During the time period necessary to implement engineering control measures.

      (2) In work situations in which the control methods prescribed are not technically feasible or are not sufficient to reduce the airborne concentration of lead particulates below the PEL.

      (3) During emergencies.

   b. Where respirators are required to control lead exposure select respirators and comply with the respirator program per Chapter 9 of this Manual.

9. Warning Signs and Caution Labels.

a. Units must provide and display warning signs at each location where airborne lead concentrations might exceed the PEL. Units must conspicuously post signs for personnel to read and take necessary precautions before entering the area. Signs, in compliance with Reference (a), should contain a listing of required protective equipment and must state, as a minimum, the following:

DANGER
LEAD WORK AREA
MAY DAMAGE FERTILITY OR THE UNBORN CHILD
CAUSES DAMAGE TO THE CENTRAL NERVOUS SYSTEM
DO NOT EAT, DRINK OR SMOKE IN THIS AREA

b. Units must affix caution labels to containers of contaminated clothing, equipment, raw materials, waste, debris, or other products containing lead if, in any foreseeable way, these products could produce levels of airborne lead which might constitute a threat to health. These caution labels must state:

DANGER:

CLOTHING AND EQUIPMENT CONTAMINATED WITH LEAD MAY DAMAGE FERTILITY OR THE UNBORN CHILD. CAUSES DAMAGE TO THE CENTRAL NERVOUS SYSTEM. DO NOT EAT, DRINK OR SMOKE WHEN HANDLING. DO NOT REMOVE DUST BY BLOWING OR SHAKING. DISPOSE OF LEAD CONTAMINATED WASH WATER IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, OR FEDERAL REGULATIONS.

10. Messing Facilities and Personal Hygiene.

a. Units must provide messing facilities for employees who work in areas where their airborne lead exposure is above the PEL (without regard to the use of respirators).

b. When units locate messing facilities adjacent to the lead work area, such facilities must have a positive pressure, filtered air supply and be readily accessible to employees.

c. Employees must remove protective clothing and equipment before entering messing facilities.

d. Units must prohibit eating, drinking, chewing or the use of tobacco products, the application of makeup and storage of food and tobacco products in lead work areas.

e. Lead workers must wash their hands and face prior to eating, drinking, using tobacco products or applying cosmetics.

11. Lead Waste Disposal/Environmental Protection.

a. Units must ensure that measures taken to meet local and national environmental standards are compatible with the requirements of this Chapter.

b. Units must require, prior to disposing of hazardous lead waste, bagging in heavy duty plastic bags or other impermeable containers and labeling with caution labels described in Paragraph B.9.b.

c. Units must dispose of lead containing materials per Reference (m), applicable Federal, State and local environmental requirements. The cognizant environmental manager must determine environmental requirements relating to lead emissions/disposal.

12. Training. All Coast Guard personnel who work in areas where the potential exists for lead exposure at or above the AL, or for whom the possibility of skin or eye irritation exists must receive initial training prior to or at time of assignment and at least annually thereafter. The training, per Reference (a), must include, as a minimum, the following:

a. The specific nature of the operations during which exposure is possible.

b. The purpose, proper selection, fit testing, use, and limitations of respirators.

c. The adverse health effects of lead with particular attention to the reproductive effects upon both males and females.

d. The purpose and description of the medical surveillance program, including the use of chelating agents and medical removal protection.

e. The engineering controls and work practices to be applied and used in the employee's job, including PPE and personal hygiene measures.

f. The contents of the unit's compliance plan.

13. Industrial Hygiene Surveillance. An exposure-monitoring plan must be established for any lead operation with the potential to cause employee exposure at or above the action level. Qualified persons must conduct initial and periodic monitoring.

14. Employee Notification. Within 5 working days after the receipt of monitoring results, Unit must notify each employee in writing of his/her exposure monitoring results. Whenever the results indicate that the employee was exposed above the PEL, without regard to respirator use, the written statement must include that fact and a description of the corrective action(s) taken to reduce the individual's exposure.

15. Medical Surveillance. Units must include all personnel in the Coast Guard occupational medical surveillance and evaluation program (OMSEP), when industrial hygiene surveillance results indicate that they perform work or are likely to be in the vicinity of an operation that generates airborne lead concentrations at or above the AL for more than 30 days per year. The medical surveillance program consists of the following:

a. Pre-placement Evaluation. All Coast Guard personnel who meet criteria of Paragraph B.2.b must receive a pre-placement evaluation as described in Reference (l) prior to assignment to a position involving potential exposures to lead that equal or exceed the AL.

b. Blood Lead Levels Monitoring Frequency. Blood lead and Zinc Protoporphyrin (ZPP) level sampling and analysis must be conducted based on the criteria established in Chapter 12 of Reference (l).

c. Follow-up Blood Lead Monitoring. Follow-up blood sampling tests must be based on criteria established in Chapter 12 of Reference (l).

d. Medical Removal/Individual Reassignment. Chapter 12 of Reference (l) and Reference (j) provide the policies and instructions for medical removal and reassignment.

(1) Units must reassign pregnant women exposed to lead at or above 30 $\mu g/m^3$ or who have a blood lead level of 5 μg/100g blood per Reference (j) to a job without lead exposure, with medical removal benefits.

(2) All other employees must be temporarily reassigned to non-lead work and returning employees to former job status is based on criteria established in Reference (l).

16. Work Performed by Private Contractors. Contract administrators must ensure that each contract, for work performed by an independent contractor which could involve the release of lead dust, must incorporate the appropriate references and clauses to ensure that:

a. The contractor is aware of the potential hazard to his/her employees and Coast Guard personnel.

b. The contractor complies with References (a), (b), and (i) to protect his/her employees, as well as Coast Guard personnel.

c. The contractor must control lead dust outside of the work boundary to less than 30 μg/m3 at all times, and must perform sufficient monitoring to confirm that this level of control is maintained. In addition, the controlled work area(s) must meet these criteria prior to release for unrestricted access. Contractors must provide copies of their monitoring results to the HSWL SC (se) Industrial Hygienist via the contract administrator.

17. Record Keeping. The following records must be maintained:

a. Exposure Monitoring. Exposure monitoring records of individual employees must be kept for 30 years.

b. Medical surveillance. Each employee medical surveillance record must be kept for the duration of the employee's employment plus 30 years.

c. Employee Training. Records of employee training must be kept for one year beyond the employee's employment.

d. Record Keeping. Per Reference (m) all hazardous waste management records including contracts must be permanently retained at the generating units.

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must:

   a. Establish and promulgate policies and standards to include updates for Coast Guard lead hazard control program.

   b. Serve as the Coast Guard liaison with DHS, DoD and all federal agencies in their support of the program.

   c. Conduct annual program audits of HSWL SC (se) to assure compliance with this instruction.

2. Chief, Health, Safety and Work-Life Service Center, (HSWL SC). Chief, Health, Safety and Work-Life Service Center (HSWL SC) must:

   a. Provide industrial hygiene technical support and training assistance to units for the purpose of evaluating the potential for lead exposure.

   b. Through exposure assessment, identify to medical clinic representative, personnel who work with lead or who work in areas where the potential exists for lead exposure at or above the AL so they can be enrolled in the medical surveillance program.

3. Sector Commanders. Sector Commanders must:

   a. Maintain a list of all lead containing materials/ hazards at subordinate units.

   b. Maintain a current roster of personnel exposed or potentially exposed to lead above AL and report to District.

   c. Ensure training is provided to all personnel who work in areas where the potential exists for lead exposure at or above AL.

   d. Ensure that the requirements of this Chapter are implemented.

   e. Budget resources in order to meet the requirements of this Chapter.

4. Shore Infrastructure Logistics Center (SILC). Shore Infrastructure Logistics Center (SILC) must:

   a. Provide advice and technical assistance concerning lead paint in Coast Guard buildings, particularly housing, childcare facilities and recreational buildings.

   b. Ensure that contracting officers and representatives receive the appropriate level of training to adequately plan, design, oversee and review lead construction work.

5. Surface Forces Logistics Center (SFLC).

   a. Maintain a database of all cutters and boats with LCM.

   b. Coordinate the safe LCM removal and remediation from those vessels.

6. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:

   a. Designate a Lead Hazard Control Manager (LHCM) in writing to implement the Unit's Lead Hazard Control Program. Notify and request HSWL SC (se) assistance in identifying potential lead hazards.

   b. Ensure that all required training courses are successfully completed.

   c. Ensure personnel are enrolled in OMSEP, per paragraph B.15.

   d. Apply control measures and monitoring procedures prescribed in this Chapter to processes using lead or lead containing materials.

   e. Budget resources in order to meet these lead hazard control requirements.

   f. Maintain all records of lead waste disposal.

   g. For afloat units, COs must not authorize paint removal for cosmetic reasons or due to excessive paint thickness.

7. Supervisors. Supervisors must ensure that all employee under their supervision who work with lead containing materials have received the required training and possess a thorough understanding of the nature of the hazard and protective procedures to eliminate the exposure.

8. Employees. Employees must carry out duties in full compliance with this Chapter and applicable regulations as listed in References (a) through (m).

CHAPTER 28 DEPLOYABLE SPECIALIZED FORCES SAFETY

References:

(a) Executive Order 12196 as amended, "Occupational Safety and Health (OSH) Programs for Federal Employees"
(b) Public Law 91-596, Occupational Safety and Health Act of 1970 (OSHA Act) and 29 U.S.C., §651 et seq, 29 C.F.R. §§ 1900 to 2400
(c) Risk Management, COMDTINST 3500.3 (series)
(d) Naval Engineering Manual, COMDTINST M9000.6 (series)
(e) Ordnance Manual, COMDTINST M8000.2 (series) (FOUO)
(f) Range Training Handbook Tactics, Techniques, and Procedures (TTP), CGTTP 3-30.3
(g) Ordnance Tactics, Techniques, and Procedures (TTP), CGTTP 3-30.2
(h) Coast Guard Medical Manual, COMDTINST M6000.1 (series), Chapter 12, Occupational Medical Surveillance and Evaluation Program (OMSEP)
(i) Shipboard Fire Prevention and Fire Marshal Instruction, COMDTINST 9091.1 (series)
(j) Deployable Specialized Forces Tactical Operations and Operator Policy, COMDTINST 16600.7 (series) (FOUO)
(k) Diving Program Manual, COMDTINST M3150.1 (series)
(l) U.S. Coast Guard Boat Operations and Training (BOAT) Manual Volume I, COMDTINST M16114.32 (series)

A. Discussion.

1. Background. The Coast Guard's Deployable Specialized Forces (DSF) provides an array of mission-specific capabilities that leverage the Coast Guard's unique authorities to support operational commanders. The personnel and teams that make up DSF units operate in a unique arena and as such must have a robust safety program. The goal of the Coast Guard safety program is to utilize the Safety Management System (SMS) standards and protocols similar to DoD. The Coast Guard's safety programs implements proven SMS standards and protocols to reduce operational risk, eliminate preventable mishaps, and enhance mission success. Safety in the Coast Guard is based on the philosophy that risk can be controlled and that mishap prevention is an inherent function at all organizational levels. This includes focusing on proactive preventive measures that integrate historical and predictive evaluation and managing known and potential hazards by addressing their specific risks to safety. Through management of risk, the mitigation of hazards, effective communication, standardization of policies and procedures, training and the diligent use of risk analysis, future incidents and accidents can be prevented to the greatest extent possible.

2. Application. Unless specified in another Chapter, the following policies outlined in this Chapter apply to all DSF unit commanders operating or deploying to vessels and vehicles to fulfill missions or activities. Vessels include cutters and boats operated by Coast Guard active duty and reserve members and Coast Guard Auxiliary boats operating while under approved Coast Guard orders. Vehicles include all forms of ground transportation and Coast Guard aircraft. DSF personnel deployed on other DoD or Other Government Agency (OGAs) assets must also comply with the policies outlined in this Chapter. All

Coast Guard program and support managers are subject to guidance contained within this Chapter when developing any policy or procedures, such as acquisitions, sustainment, support, configuration control, Tactics, Techniques, and Procedures (TTP), compliance activities, etc.

a. As described in Chapter 1, Coast Guard vessels and aircraft are presumed to be engaged in uniquely military operations, and are exempted by Reference (a) from compliance with Reference (b) for all crews and passengers while engaged in underway operations.

b. While in a non-operational status i.e. at home station, the unique military exemption no longer applies, and units must apply the standards contained in References (a) and (b) and 29, U.S.C., §668, "Programs of Federal Agencies," and the Department of Homeland Security (DHS) Directive 066-01, "Safety and Health Programs," where practicable or employ alternate Occupational Safety and Health (OSH) standards that are at least as stringent as Occupational Safety and Health Administration (OSHA) standard.

B. Program Requirements. Unit commanders conducting DSF missions or activities must implement protocols that support the safety program requirements delineated in this Manual. Additional requirements are listed below.

1. Safety Policy.

a. Publish a safety policy statement that emphasizes the command's commitment to safety, risk management, and other unit-specific priorities. Include safety policy statement in other unit policies (e.g. SOP, ORGMAN, etc.) and ensure that reporting safety concerns can be reported without fear of reprisal.

b. Safety policies must be documented in writing and readily accessible to all unit members (e.g. web access, bulletin boards, etc.). Personnel assigned to perform collateral safety duties must be designated in writing.

c. The Executive Officer (XO) must be designated in writing as the unit Safety Officer (SO).

d. Safety policies must be openly discussed and promoted by unit leaders and supervisors during daily activities (e.g., all hands training events, briefs, etc.).

e. Safety policies must be reviewed annually to verify accuracy and relevance.

f. Safety policies should address Safety Culture elements (reporting culture, learning culture, just culture, informed culture, flexible culture) described in Chapter 1.

g. Establish a Safety and Environmental Health (SEH) committee that identifies and reviews hazardous conditions, tracks abatement and control actions, and reviews unit mishap reports and mishap messages from similar units to review and implement lessons learned. See Chapter 5 of this Manual for a complete list of SEH committee

duties.

2. Safety Risk Management. Unit commanders must implement the risk management procedures and protocols described in Reference (c). Units must also implement the program requirements described in Chapter 4 of this Manual to identify and control workplace hazards.

3. Safety Assurance.

   a. Unit Safety Survey. A detailed unit safety survey must be conducted annually and whenever the CO directs. This all-encompassing report from the XO to the CO should act as a *State of the Unit Safety* report. This survey is an in-depth audit of all phases of the unit's operations involving operational/unit safety. The survey should include:

      (1) Areas of potential mishap and hazard exposure.

      (2) Causes and corrective actions relating to recent mishaps.

      (3) Status of training, proficiency and standardization.

      (4) Effectiveness of quality control procedures for maintenance and equipment PMS.

      (5) Adequacy of supervision, personnel, safety equipment, or shore facilities.

      (6) Dissemination of safety literature.

      (7) Unit personnel opinion poll of the unit's safety posture and a comparison to prior years. Consider inclusion of instances of noncompliance, intentional or not, with prescribed practices or instructions.

      (8) Results recorded and submitted to the CO, who must prescribe required corrective action. The XO must monitor corrective action and report uncorrected items in subsequent surveys.

   b. Health, Safety and Work Life Service Center, Safety and Environmental Health Division (CG HSWL SC (se)) Inspections. HSWL SC (se) must provide Safety and Environmental Health support services. This support includes both on and off-duty safety. HSWL SC (se) personnel must conduct periodic unit inspections that concentrate on environmental, OSH, facility safety and DSF safety concerns.

   c. Unit Safety Assessment Tool (USAT). USAT is a safety inspection tool, which can be customized to specific unit needs, allowing units to document self-inspections and track any deficiencies to completion. Units shall conduct daily as well as an annual formal inspection using USAT and identify any hazardous conditions. Report all unresolved hazardous conditions per Chapter 4 of this Manual.

   d. Fire Safety and Prevention Program. A detailed unit fire safety and prevention

program shall be promulgated per reference (i). Units shall conduct daily inspections of spaces for fire hazards as part of your fire safety and prevention program. Ensure that hot work is properly addressed in the fire safety and prevention program per Reference (d).

e. Firearms and Explosive Safety. A detailed unit fire safety and prevention program shall be promulgated per reference (i). Guidance on weapons and munitions specific TTP is found in References (e) and (f).

f. Confined Space Entry (CSE). Develop, implement and maintain a CSE program that meets the requirements of Reference (d) and Chapter 13 of this Manual.

g. OSHA Inspectors. Except for uniquely military workplaces and operations or those where only military personnel are employed, OSHA inspectors and evaluators are authorized per Chapter 1, Paragraphs D.1 – D.4 and Table 1-1 of this Manual to:

(1) Enter, without delay, during regular work hours, any building, installation, facility construction site, or other area, workplace or environment where work is performed by Coast Guard civilian employees or contract employees.

(2) Inspect and investigate, during regular working hours and at other reasonable times, all pertinent conditions, structures, machines, devices, equipment and materials.

(3) Privately question any civilian employee, any supervisory employee and/or any official in charge.

(4) Formally report on unsafe conditions encountered by civilian employees.

h. Accessing Recorded Data. Coast Guard cutters are equipped with SeaWatch; an enhanced Coast Guard Afloat C2 system that integrates navigation and tactical sensors, communications, and optical surveillance systems. SeaWatch data can be used to aid Coast Guard analysis and investigation boards with determining DSF mishap causal factors. In addition to the SeaWatch, cutters and boats have Automated Identification System (AIS) data that can aid in capturing historical navigational information. Coast Guard boats equipped with Scalable Integrated Navigation System (SINS) II will record the last 2 hours of historical navigational track on the SINS card.

i. Class A and B Mishap Analysis. If an actual or potential Class A or Class B mishap event occurs, the unit Safety Officer (SO) or senior Permanent Mishap Board (PMB member must secure any navigational data and any flight data information for any asset involved in the mishap. If assets are not part of DSF units OPCON, the unit SO should coordinate with the other units' SO to secure the data. MAB president should reach out to Coast Guard Navigational Center to request all AIS data.

j. Class C and D Mishap Analysis. When a Class C or D mishap occurs in which navigation data is desired to support the safety analysis, the unit SO or senior

permanent mishap board member should facilitate the removal and securing of the navigation data storage cards, or request flight data from units flight safety officer, if available.

4. Safety Promotion.

a. Mishap Response Training. The unit's Mishap Response Plan (MRP) must provide guidance ensuring effective completion of the numerous time-critical tasks resulting from a unit mishap. Primary and alternate PMB members and corresponding duties must be clearly identified prior to initiation of any actual or simulated mishap response activities. The following annual training requirements must be met:

(1) PMB members and their alternates must receive annual training on their responsibilities after a mishap. The training should emphasize preservation of evidence, proper mishap documentation, mishap site hazards, post mishap responsibilities/duties and notification priorities.

(2) The MRP must be drilled or practiced annually by simulating a mishap and then accomplishing all the resulting required actions. It is recommended the unit alternate between tabletop and underway drills to practice the MRP. Unit response and the MRP's effectiveness should be evaluated. Units are encouraged to periodically activate the MRP to analyze Class C and D mishaps to meet annual training and drill requirements.

b. Safety Stand Down. Conduct a safety stand down at least annually. Each unit must discontinue their regular work routine for at least one workday to focus on safety procedures and concerns. This training should include topics applicable to all hands as well as specialized training for specific groups. Consider using guest speakers from outside the command to increase the effectiveness of the training. The stand down can coincide with normal post-holiday or end of summer; or provide an opportunity to share lessons learned due to a recent mishap or gaps in training. This venue might be appropriate for garnering input and/or reporting on unit's annual USAT report. HSWL SC (se) can assist the unit in developing an effective safety stand down protocol. In addition to the annual comprehensive safety stand down, units are also encouraged to conduct brief stand down events or operational pauses focused on sharing lessons learned from a recent mishap or string of mishaps.

c. OPHAZARD Awareness Training. An OPHAZARD is any condition that affects or might affect the safety of Coast Guard personnel or equipment. Units must comply with initial and annual OPHAZARD awareness training requirements detailed in Reference (c). Additional OPHAZARD awareness training requirements are detailed below:

(1) OPHAZARD awareness training must include mission-specific hazards (e.g., dive ops, hook and climb, hazmat clean-up, etc.).

(2) OPHAZARD awareness training must be made accessible to TDY crews (e.g., CG Portal, email, telephonic brief, etc.) to provide awareness of local and

mission-specific hazards during mission planning activities. (e.g., surge-ops, non-local unit support, deployments, etc.). Deployed crews from DSF units should ensure all crews receive OPHAZARD awareness training from a host unit prior to conducting operations in unit's AOR.

d. Missionized Safety Assurance Force (MSAF) Competency. MSAF Competency. All Qualified Coast Guard members who complete Advanced Mishap Analysis and Reporting Course (AMARC) (100121) are eligible for the Mission Assurance Safety Force competency (MSAF). This competency expires five years from the completion of AMARC or the participation in a MAB.

e. Team Coordination Training (TCT). Mandated for all non-aviation active duty, reserve, auxiliary, and civilian personnel who contribute to the planning, conducting, and monitoring of operations. Reference (c) outlines the training requirements for TCT training requirements

f. Surface Safety Systems Post-Graduate Education Program. The Surface Safety Systems Post-Graduate Education Program is an 18-month Master of Science degree program that equips graduates with expertise in a wide range of advanced safety subjects. Selectees of the program will complete a follow-on assignment as the Afloat or the Deployable Specialized Forces Program Manager within the Safety Program Management Division, Commandant (CG-1131).

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must:

a. Develop, recommend, promulgate and monitor policies for DSF safety in consultation with appropriate program managers.

b. Recommend policies and procedures to protect the public from possible hazards of Coast Guard DSF activities.

c. Advise and assist the chain of command in correcting hazardous conditions adverse to DSF safety.

d. Coordinate and convene formal Mishap Analysis Boards (MAB) on behalf of the Commandant.

e. Maintain and track all Class A and Class B mishap reports, safety recommendations, and corrective actions.

f. Monitor all Commandant level MAB directed corrective actions until completed.

g. When necessary, assign a representative to serve as liaison for all National Transportation Safety Board (NTSB) reportable mishaps.

h. Review and approve all Time Compliance Technical Orders (TCTOs), TTP, IT&E reports, as well as any SEH policy that affects the DSF safety program.

i. Provide a member on all DSF related Configuration Control Boards (CCB).

j. Advise and assist appropriate Program Managers (PM) to correct DSF related issues.

2. Chief, Specialized Capabilities (CG-721). Chief, Specialized Capabilities (CG-721) must:

   a. Serve as the CRM course manager as described in Reference (c).

   b. Serve as member on the CRM review process and establish CRM training requirements for DSF units as described in Reference (c).

   c. Serve as a DSF representative on Commandant's Safety Boards (CSB) that involve DSF units and as required.

3. Chief, Boat Forces (CG-731). Chief, Boat Forces (CG-731) must:

   a. Serve as member on the TCT review process and establish TCT training requirements for boat forces units as described in Reference (c).

   b. Serve as the Boat Forces representative on 'CSB, as required.

4. Chief, Safety Program Management (CG-1131). Chief, Safety Program Management (CG-1131) must:

   a. Consult with Commandant (CG-113), Commandant (CG-1132), Commandant (CG-45), Commandant (CG-711), Commandant (CG-721), and Commandant (CG-731) on issues pertaining to DSF safety programs. Advise Commandant (CG-11), Commandant (CG-45), and Commandant (CG-721) regarding resources required to maintain a strong Coast Guard DSF SMS.

   b. Develop, recommend and monitor SMS policies and procedures for implementation by DSF Platform and System Managers, Facility Managers and Operational Commanders (Area, District and unit COs/OICs).

   c. Ensure Office Chiefs, PMs and Operational Commanders (Area, District and unit COs/OICs) are kept fully informed of DSF safety policies and programs.

   d. Interface with other PMs to ensure DSF safety is given primary consideration in all DSF decision-making processes. Ensure that system safety, risk assessment and RM are incorporated as an integral part of the decision making process. Regularly review and analyze DSF risks for policy adjustments to facilitate RM. Develop and promote integration of RM information into operational safety.

   e. Ensure all mishaps are analyzed to determine causal factors and recommend

corrective actions needed to control hazards and prevent future mishaps. Propose Commandant MAB members to the DSF CSB following major DSF mishaps, hazards or events.

f. Provide a Commandant (CG-1131) advisor for MAB on-site guidance and support from initial convening order until delivery of the final signed Mishap Analysis Report (MAR) and supporting appendices, enclosures and technical reports. Coordinate with responsible organizations and offices to promptly resolve critical safety deficits revealed during the mishap analysis process.

g. Serve as the DSF Safety representative and coordinate activities of the DSF CSB. Facilitate review and adjudication of DSF mishap MAB reports, chain of command endorsements, and any other relevant post-mishap analyses and investigations. Submit CSB findings and recommended final decisions and directed actions to Commandant (CG-11), Deputy Commandant for Mission Support (DCMS), and Deputy Commandant for Operations (DCO), and Vice Commandant of the Coast Guard (VCG) approval. Disseminate VCG final decisions and directed actions.

h. Maintain the master files of all Freedom of Information Act (FOIA) requests for Coast Guard DSF mishap information.

i. Manage safety training for DSF personnel.

5. Chief, Safety Assurance and Risk Reduction Division (CG-1132). Chief, Safety Assurance and Risk Reduction Division (CG-1132) must:

a. Review and evaluate Coast Guard program operational requirements to ensure effective integration of system safety and risk management.

b. Maintain liaison with other Coast Guard programs (e.g., Commandant (CG-1B3)) to ensure that systems safety, risk assessment and risk management are considered in decision-making processes.

c. Serve as the technical authority for risk management and associated training (e.g., dive operations) as directed in Reference (c).

d. Design and develop database management and analysis systems that: a) identify high risk areas requiring immediate resolution; b) identify leading indicators for surveillance activities; and c) prioritize risk management activities.

e. Manage the mishap database design, implementation and effectiveness. Analyze mishap data for trends/patterns in order to identify enterprise-level leading indicators of high-risk Coast Guard operations. Based on quantitative data, initiate comprehensive measures to control or eliminate unsafe practices.

f. Maintain mishap databases to track recommended and directed actions.

g. Design e-tools for use by field units to enable measurement of safety program

effectiveness and safety culture norms.

h. Manage, direct, and coordinate analysis aspects (e.g., use of DoD Human Factors Analysis and Classification System (HFACS)) of the Coast Guard mishap response process.

i. Disseminate information on emerging operational hazards and recommendations for loss control.

j. Conduct quality assurance activities to gauge compliance with established policies, procedures and programs.

k. Design, develop and maintain data management and analysis processes to support Coast Guard SMS.

6. Force Readiness Command Training Division (FC-T). Force Readiness Command Training Division (FC-T) must:

   a. Develop and implement Coast Guard TCT training per FORCECOM SOPs. Any tasks related to the development and implementation of training conducted by FORCECOM must not conflict with FORCECOM SOPs located at: http://www.uscg.mil/forcecom/training/training_sop.asp.

   b. Provide a representative to serve on Commandant Safety Boards, as required.

7. Commanding Officer, Health, Safety, and Work Life Service Center (HSWL SC). Commanding Officer, Health, Safety, and Work Life Service Center (HSWL SC) must:

   a. Manage and provide SEH support services for DSF safety.

   b. Manage and provide SEH support services for DSF safety.

   c. Conduct SMART visits every three years.

   d. Assist Commandant (CG-113) on review of all TTPs, IT&E plans, as well as any SEH policy that affects DSF safety.

   e. Advise Commandant (CG-113) of all safety deficiencies that have fleet wide implications.

   f. Assist Commandant (CG-113) with review of all TCTO's relating to boats and cutters and provide comment.

8. Area and District Commanders. Area and District commanders must ensure that the provisions of this program are implemented. These commands must also review and endorse DSF mishap reports of their subordinate commands as directed by Commandant.

9. DSF Commands. DSF commands include; National Strike Force, Port Security Units, Maritime Safety and Security Teams, Maritime Security Response Teams, and. Tactical Law Enforcement Teams and LEDETs.

   a. SMS. Establish a SMS and implement the unit safety policy, risk management, assurance, and promotion SMS elements described in Section B of this Chapter.

   b. Safety Organization.

      (1) Executive Officer. The Executive Officer (XO) is the senior safety representative. The XO must be designated in writing as the SO and Chair of the Unit Safety and Environmental Health (SEH) committee.

      (2) Collateral Duty Safety Officer. Designate in writing an Assistant Safety Officer (ASO to assist the XO in implementing the SMS elements described in Section B of this Chapter.

      (3) Deployable Team Leaders (DTL). DTLs should familiarize themselves with mishap reporting requirements and response protocols while deployed for operations or training. Establishing a contact list of unit/safety response POCs prior to deployments and conducting team mishap response training will greatly reduce confusion at during mishap response.

      (4) Assign other duties as necessary to include:

         (a) OMSEP Coordinator per Reference (f).

         (b) Respiratory Protection Coordinator per Chapter 9 of this Manual.

         (c) Asbestos Management Coordinator per Chapter 12 of this Manual.

   c. Safety Boards and Committees.

      (1) Safety and Environmental Health Committees (SEH). Establish a SEH Committees and designate members in writing.

      (2) Permanent Mishap Board (PMB). Establish a PMB and designate members in writing.

   d. Respond to Mishaps.

      (1) Comply with mishap response requirements described in Chapter 3 of this Manual.

      (2) Activate the unit MRP and unit PMB when a known or suspected Class A/B unit mishap occurs, when notified of a mishap in the Area of Responsibility (AOR) that could result in assignment of a Commandant MAB, or when the resources needed to conduct a local mishap analysis are beyond the scope of the unit PMB.

Due to the unique operations of DSF units may have to coordinate with other unit PMB to assist post mishap activities when deployed assets or personnel are involved in a mishap.

10. Commanding Officers of Units with Deployed DSF Resources. Comprehensive policy and guidance for safe and effectiveness operations is promulgated in references (j) through (l). Key safety policy elements are summarized below

    a. Mishaps involving DSF resources embarked or attached to Sectors, vessels, or aircraft must be reported per paragraph 3.B.10.(9) and 3.B.10.(1) of this Manual. .

    b. Sector Commanders, cutter COs, and Air Station COs have overall responsibility for conducting safe operations and must be familiar with all types of DSF evolutions and staffing responsibilities.

    c. Sector Commanders, cutter COs, and Air Station COs must solicit feedback and improvements to their MRPs from Deployable Team Leaders embarked on their units.

11. Deployable Team Leaders (DTL).

    a. Advise operational commander on all matters concerning DSF safety.

    b. Ensure the deployed team has adequate DSF mishap response and salvage plans.

    c. Conduct DSF related safety training for the deployed unit's personnel with emphasis on shipboard or deployed unit emergency procedures.

    d. DTLs shall be well versed in MRP and shall be responsible for carrying MRP duties as part of their deployment package to assist the operational commander with the post mishap process.

12. Collateral Duty Safety Officers.

    a. Act as the XO/XPO's advisor on safety matters, ensuring compliance with SEH and aviation SMS requirements contained in this Manual.

    b. Serve as a safety representative on the unit PMB. Coordinate with unit PMB President to prepare PMB members and alternates to respond appropriately following mishap notification.

    c. Maintain the unit Mishap Response Plan (MRP). Annually update and exercise the MRP. Document and facilitate resolution of deficiencies discovered during MRP exercises. Consider planning for and simulation of multiple potential mishap scenarios (e.g., local, remote, cutter-based, internationally-deployed, etc.). Units can alternate between full mishap simulations and less intrusive tabletop exercises.

    d. Maintain and periodically inventory a unit mishap analysis kit. Document plans to

obtain tools, equipment, and other items not maintained in the mishap analysis kit (e.g., food, communications equipment, sanitation equipment, flood lights, breathing apparatus, etc.)

e. Maintain files of unit and other mishap reports. It is recommended that a unit safety trend analysis be conducted, and presented to the CO on a regular basis. An annual compilation and review of mishaps and trends can be included in the unit safety survey.

f. Routinely review, distribute, and publish relevant safety information (e.g., local or external safety newsletters, lessons learned, leading practices, etc.). Safety information should be shared using multiple delivery methods and media to assure widest dissemination to all unit personnel while reinforcing command safety commitment and priorities.

g. Manage unit safety suggestion and incentive programs stressing individual achievement.

h. Provide mishap response training to unit and PMB members per Section B.4.a. of this Chapter. PMB training must include mishap response duties prior MAB arrival including: protection of the mishap site and wreckage, photographic documentation, mishap site hazards, and collection of all pertinent logs and records. PMB support and analysis following minor mishaps with clear human factors implications should also be considered.

13. Supervisors. Supervisors must implement and actively promote the unit's written safety policy. Supervisors must support the safety culture elements described in Chapter 1 to sustain a safe, healthy and positive work environment.

14. Employees.

a. Understand and comply with Coast Guard and unit-level SMS policies and applicable Tactics, Techniques, and Procedures (TTP).

b. Commit to a personal responsibility of safeguarding themselves, their fellow crewmembers and the property entrusted to their care.

c. Communicate known hazards and risks assertively without fear of reprisal

ACRONYM LIST

Acronym	Description
AABA	Ambient Air Breathing Apparatus
AC	Aircraft Commander
ACCB	Aircraft Configuration Control Board
ACGIH	American Conference of Governmental Industrial Hygienist
ACM	Asbestos-Containing Material
ADE	Acquisition Decision Event
ADFSO	Auxiliary District Flight Safety Officer
Admin-OIX	Administrative Official Information Exchange
AEO	Aeronautical Engineer Officer
AET	Avionics Electrical Technician
AFFF	Aqueous Fire Fighting Foam
AFMES	Armed Forces Medical Examiner System
AHJ	Authority Having Jurisdiction
AHO	Area Housing Officer
AIG	Address Indicating Group
AIHA	American Industrial Hygiene Association
AIM	Administrative Investigations Manual
AIM	Aeronautical Information Manual
AIS	Accident Investigation Specialist
ALARA	As Low As Reasonably Achievable
ALC	Aviation Logistics Center
ALMIS	Asset Logistics Management Information System
AMS	Aviation Mission Specialist
AMSP	Asbestos Medical Surveillance Program
AMT	Aviation Maintenance Technician
ANSI	American National Standards Institute
AO	Authorizing Officer
AOR	Area of Responsibility
APM	Asbestos Program Manager
APHC	Army Public Health Center
APU	Auxiliary Power Unit
ARFF	Aircraft Rescue and Fire Fighting
ASC	Aviation Safety Command
ASMP	Asbestos Medical Surveillance Program
ASO	Assistant Safety Officer
ATC	Aviation Training Center
ATON	Aids to Navigation
ATTC	Aviation Technical Training Center
ATV	All-Terrain Vehicle
AVI04	Crew Resource Management Refresher Instructor, competency code
AVI05	Laser Hazard Safety Officer, competency code
AVISAFSP	Advanced Aviation Safety Specialist, competency code

Acronym	Description
AVS01	Accident Investigation Specialist, competency code
AVS02	Flight Safety Officer, competency code
AWOL	Absent Without Leave
BBP	Blood Borne Pathogens
BEI	Biological Exposure Indices
BLS	Bureau of Labor Statistics
CAE	Component Acquisition Executive
CART	Command Assessment of Readiness for Training
CBRN	Chemical, Biological, Radiological and Nuclear
CCB	Configuration Control Board
CDC	Center for Disease Control and Prevention
CDC	Child Development Center
CDO	Command Duty Officer
CDRH	Center for Devices and Radiological Health
CDRR	Central Dosimetry Records Repository
CE	Categorically Excluded
CEM	Crew Endurance Management
CEU	Civil Engineering Unit
C.F.R.	Code of Federal Regulations
CG-DCO-NCC	National Command Center
CGES	Coast Guard Exchange System
CGIS	Coast Guard Investigative Service
CG-OIX	Coast Guard Message System
CGPORTAL	Coast Guard Portal Intranet System
CGTTP	Coast Guard Tactics, Techniques and Procedures
CGX	Coast Guard Exchange
CHCO	Chief Human Capital Officer
CHT	Collection, Holding and Transfer
CISD	Critical Incident Stress Debriefing
CISM	Critical Incident Stress Management
CM	Course Manager
CMC	Certified Marine Chemist
CO	Commanding Officer
CO/OIC	Commanding Officer/Officer in Charge
COMDTINST	Commandant Instruction
CPR	Cardio Pulmonary Resuscitation
CPSC	Consumer Products Safety Commission
CRM	Crew Resource Management
CSA	Command Staff Advisor
CSB	Commandant's Safety Board
CSE	Confined Space Entry
CSMP	Current Ship's Maintenance Project
CTD	Cumulative Trauma Disorder
CVR	Cockpit Voice Recorder

Acronym	Description
CWMD	Countering Weapons of Mass Destruction
DASHO	Designated Agency Safety and Health Official
DC	Damage Control
DCMS	Deputy Commandant for Mission Support
DCO	Deputy Commandant for Operations
DCP	Designated Competent Person
DDESB	Department of Defense Explosive Safety Board
DFSO	Deployed Flight Safety Officer
DHHS	Department of Health and Human Services
DHS	Department of Homeland Security
DoD	Department of Defense
DOL	Department of Labor
DOL	Director of Operational Logistics
DOS	Department of State
DOT	Department of Transportation
DSC	Deputy Sector Commander
DSF	Deployable Specialized Forces
DSHO	Designated Safety and Health Official
DSU	Data Storage Units
DUI	Driving Under the Influence
DVD	Digital Video Disc
EA	Entry Authority
e-AVIATRS	Electronic Aviation Incident and Accident Tracking System
ECP	Engineering Change Proposal
ECP	Exposure Control Plan
EEBD	Emergency Escape Breathing Device
EL	Excursion Limit
EM	Electrician's Mate
EMF	Electromagnetic Field
e-MisReps	Electronic Mishap Reporting System (non-aviation)
EMR	Emergency Medical Response
EMT	Emergency Medical Technician
EO	Executive Order
EO	Engineer Officer
EPA	Environmental Protection Agency
EPO	Engineering Petty Officer
ERA	Environmental Risk Assessment
ESO	Electrical Safety Officer
ESO	Explosive Safety Officer
ESOH	Environment Safety and Occupational Health
ET	Electronics Technician
ETA	Engineering Technical Authority
FAA	Federal Aviation Administration
FACOSH	Federal Advisory Council on Occupational Safety and Health

Acronym	Description
FC-T	Force Readiness Command – Training Division
FDA	Food and Drug Administration
FDAU	Flight Data Acquisition Unit
FDR	Flight Data Recorder
FEA	Front End Analysis
FEAP	Facility Emergency Action Plan
FFSHC	Field Federal Safety and Health Council
FLETC	Federal Law Enforcement Training Center
FLPPS	Federal Laser Product Performance Standard
FM	Flight Mishap
FOD	Foreign Object Debris/Damage
FOIA	Freedom of Information Act
FORCECOM	Force Readiness Command
FOUO	For Official Use Only
FP	Fall Protection
FPP	Fall Protection Plan
FRA	First Responder Awareness
FRM	Flight Related Mishap
FRO	First Responder Operations
FSB	Flight Standards Board
FSM	Final Safety Message (Formerly: Final Decision Message, Final Summary Message)
FSO	Flight Safety Officer
FSO/FSM	Food Service Officer/Food Service Manager
GFE	Gas Free Engineer
GMP	Good Management Practice
GMT	General Mandated Training
GMV	Government Motor Vehicle
GS	Government Service
GSO	Ground Safety Officer
GV	Government Vehicle
HAT	Hazard Assessment Tool
HAZCOM	Hazard Communication
HAZMAT	Hazardous Materials
HCA	Head of Contracting Activity
HCMS	Hazard Condition Management System
HCN	Hearing Conservation
HCP	Hearing Conservation Program
HEPA	High Efficiency Particulate Air
HFACS	Human Factors Analysis and Classification System
HFB	Human Factors Board
HFC	Human Factors Council
HHA	Health Hazard Assessments
HIFR	Helicopter in-Flight Refueling

Acronym	Description
HIPAA	Health Insurance Portability and Accountability Act
HIPO	High Potential (for loss)
HMIS	Housing Management Information System
HMT	Hazardous Materials Technician
HR	Human Resources
HRA	Health Risk Assessments
HS	Health Services Technician
HSI	Human Systems Integration
HSWL SC	Health, Safety and Work Life Service Center
HSWL SC (se)	Chief, Health, Safety and Work-life Service Center, Safety and Environmental Health Division
HVAC	Heating, Ventilation, and Air Conditioning
Hz	Hertz
IAMSAR	International Aeronautical and Maritime Search and Rescue
ICAO	International Civil Aviation Organization
IES	Illuminating Engineering Society
IAA	Interagency Agreement
IACS	International Association of Classification Societies
ICAP	Interagency Committee for Aviation Policy
ICS	Incident Command System
IDLH	Immediately Dangerous to Life or Health
IEEE	Institute of Electrical and Electronics Engineers
IES	Illuminating Engineering Society
IH	Industrial Hygiene/Hygienist
IHR	International Health Regulations
IPM	Integrated Pest Management
IRB	Institutional Review Board
JAG	Judge Advocate General
JFTR	Joint Federal Travel Regulations
JHA	Job Hazard Analysis
JSSC	Joint Service Safety Council
LAR	Lead, Asbestos and Radon
LASER	Light Amplification by Stimulated Emission of Radiation
LBP	Lead-Based Paint
LCM	Lead Containing Materials
LHCSC	Laser Hazard Control Standing Committee
LHO	Local Housing Officer
LHSO	Laser Hazard Safety Officer
LIMS	Logistics Information Management System
LP	Liquefied Petroleum
MAA	Mutual Aid Agreements
MAAT	Mishap Analysis Assistance Team
MAB	Mishap Analysis Board

Acronym	Description
MAR	Mishap Analysis Report
MHE	Material Handling Equipment
MI	Marine Inspector
MII	Major Incident Investigations
MisReps	Mishap Reports
MK	Machinery Technician
MLEM	Maritime Law Enforcement Manual
MOA	Memorandum of Agreement
MOR	Medical Officer's Report
MOTO-SAFE	Motorcycle Safety Course Competency
MOU	Memorandum of Understanding
MPC	Maintenance Procedure Card
MPE	Maximum Permissible Exposure
MRM	Maintenance Resource Management
MRP	Mishap Response Plan
MSAF	Missionized Safety Assurance Force
MSD	Musculoskeletal Disorder
MSHA	Mine Safety Health Administration
MVSC	Motor Vehicle Safety Coordinator
NARA	National Archives and Records Administration
NATO	North Atlantic Treaty Organization
NCC	National Command Center
NCIPC	National Center for Injury Prevention and Control
NEPA	National Environmental Policy Act
NESU	Naval Engineering Support Unit
NFIRS	National Fire Incident Reporting System
NFPA	National Fire Protection Association
NHTSA	National Highway Traffic Safety Administration
NIOSH	National Institute for Occupational Safety and Health
NIR	Non-Ionizing Radiation
NLLAP	National Lead Laboratory Accreditation Programs
NOAA	National Oceanic and Atmospheric Administration
NoK	Next of Kin
NOTAL	Not To All
NRC	Nuclear Regulatory Commission
NSC	National Safety Council
NSF	National Sanitation Foundation
NSS	National Search and Rescue Supplement
NSTM	Naval Ship's Technical Manual
NTSB	National Transportation Safety Board
NVLAP	National Voluntary Laboratory Accreditation Program
NVM	Nonvolatile Memory
O&M	Operations & Maintenance
O&SHA	Operation & Support Hazard Analysis

Acronym	Description
OBA	Oxygen Breathing Apparatus
OCMI	Officer in Charge Marine Inspection
OEH	Occupational and Environmental Health
OEL	Occupational Exposure Limit
OH	Occupational Health
OHA	Operational Hazard Analysis
OHMC	Owned Housing Maintenance Coordinator
OIC	Officer-in-Charge
OIX	Official Information Exchange
OMSEP	Occupational Medical Surveillance and Evaluation Program
OPHAZARD	Operational Hazard
OPMODE	Operational Mode
ORGMAN	Organizational Manual
OS	Overuse Syndrome
OSEP	Occupational Safety and Environmental Programs
OSH	Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PACM	Presumed Asbestos Containing Material
PCS	Permanent Change of Station
PDR	Personnel Data Record
PEL	Permissible Exposure Limit
PFS	Principal for Safety
PG	Process Guide
PII	Personally Identifiable Information
PM	Program Manager
PMB	Permanent Mishap Board
PMS	Preventive Maintenance System
PMV	Private Motor Vehicle
POC	Point of Contact
POV	Privately Owned Vehicle
ppb	Parts Per Billion
PPE	Personal Protective Equipment
ppm	Parts Per Million
PQS	Personnel Qualification Standard
PR	Purchase Request
QRC	Quick Response Card
RAC	Risk Assessment Code
RADHAZ	Radiation Hazard
RADIAC	Radioactivity, Detection, Indication and Computation
RAM	Risk Assessment Matrix
RATS	Recommend Action Tracking System
RF	Radio Frequency
RFO	Ready for Operations
RM	Risk Management

Acronym	Description
RMSC	Risk Management Steering Committee
RPM	Respiratory Protection Manager
RSI	Repetitive Strain Injuries
RSO	Radiation Safety Officer
SA/BA	Self-Aid/Buddy-Aid
SAC	Special Agent in Charge
SAFR	Small Arms Firing Range
SAI	Small Arms Instructor
SAMO	Senior Aviation Management Official
SARM	Safety and Risk Management
SCBA	Self-Contained Breathing Apparatus
SCP	Shipyard Competent Person
SDS	Safety Data Sheet
SE	Systems Engineering
SEG	Similar Exposure Groups
SEH	Safety and Environmental Health
SEHC	Safety and Environmental Health Council
SEHO	Safety and Environmental Health Officer
SFLC	Surface Forces Logistics Center
SILC	Shore Infrastructure Logistics Center
SINS	Scalable Integrated Navigation System
SLO	Safety Loading Officer
SMART	Safety Mobile Assistance and Response Training Team
SME	Senior Medical Executive
SME	Subject Matter Expert
SMS	Safety Management System
SO	Safety Officer
SOH	Safety and Occupational Health
SOHC	Safety and Occupational Health Council
SOP	Standard Operating Procedures
SORS	Spill Oil Recovery System
SOW	Statement of Work
SPCC	Spill Prevention Control and Countermeasure
SPL	Sound Pressure Level
SPME	Special Purpose Motorized Equipment
SPO	Safety Petty Officer
SRB	Safety Review Board
SSCEC	Ship Sanitation Control Exemption Certificate
SSM	Sector Safety Manager
SSMR	Shore Station Maintenance Record
STAN	Standardization
STR	Standard Training Requirement
SVIA	Specialty Vehicle Institute of America
SWP	Safe Work Practices

Acronym	Description
T&E	Testing & Evaluation
TA	Technical Authority
TAD	Temporary Additional Duty
TCAS	Traffic Collision Avoidance System
TCTO	Time Compliance Technical Order
TDY	Temporary Duty
TFOA	Things Falling Off Aircraft
TLD	Thermo Luminescent Dosimeter
TLV	Threshold Limit Values
TM	Training Manager
TMAPS	Technical Manual Application Systems
TMT	Training Management Tool
TOA	Tenant Occupancy Agreement
TQC	Training Quota Management Center
Tri-P	Tripartite Program Meeting
TRiPS	Travel Risk Planning System
TSTA	Tailored Ship's Training Availability
TTP	Tactics, Techniques and Procedures
TWA	Time-Weighted Average
TYCOM	Type Commander
U.S.C.	United States Code
UAS	Unmanned Aircraft System
UCMJ	Uniform Code of Military Justice
UPH	Unaccompanied Personnel Housing
USACE	U. S. Army Corps of Engineers
USAT	Unit Safety Assessment Tool
VCG	Vice Commandant of the Coast Guard
VFDR	Voice and Flight Data Recorder
WBGT	Wet Bulb Globe Temperature
WMD	Weapons of Mass Destruction
WMSD	Work-related Musculoskeletal Disorder
XO	Executive Officer
XPO	Executive Petty Officer
XRF	X-Ray Fluorescence
ZPP	Zinc Protoporphyrin