



Safety and Environmental Health Manual



COMDTINST M5100.47B

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COMMANDANT INSTRUCTION M5100.47B

Subj: SAFETY AND ENVIRONMENTAL HEALTH MANUAL

1. PURPOSE. This Manual sets forth the key elements of the Coast Guard's Safety and Environmental Health Program, assigning responsibilities for the implementation of those program elements and specifying the Safety and Environmental Health (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, as well as to the operational community including 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 M5100.47A is 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 does not apply to bargaining unit employees covered by a negotiated agreement with safety and health provisions. In that circumstance, the negotiated agreement covering safety and health applies. Refer to the appropriate negotiated agreement for guidance. For bargaining unit employees not covered by a negotiated agreement with safety and health provisions, all appropriate labor relations obligations must be met before initiating, modifying, or terminating a safety and health program. Supervisors of civilians must contact their servicing Command Staff Advisor (CSA) or Human Resources (HR) Specialist to discuss labor-management obligations.
- 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) Completed multiple content revisions to comply with Coast Guard policy (*Writing in Plain Language to Increase Effectiveness*, COMDTINST 5216.6) 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 safety and environmental health programs were updated for each Chapter. Keeping precedent from previous revisions, hundreds of references are divided into 27 Chapter lists enabling readers to promptly review relevant source information cited throughout the Manual.
 - b. Chapter 1 – Introduction. Added policy on Safety Culture applicable to all units.
 - c. Chapter 3 – Mishap Response. Several content and structural changes. Primary changes include:
 - (1) Added references linked to existing or updated contents, including addition of the Mishap Response and Reporting Tactics, Techniques, and Procedures.
 - (2) Section A – Discussion was modified to emphasize prohibitions and mandatory provisions of the Chapter.
 - (3) Sections B – G were modified to represent general sequence of mishap response.
 - (4) Section B – Mishap Assessment integrates mishap classification determinations promulgated in COMDT COGARD WASHINGTON DC 231610Z APR 15/ALCOAST 162/15.

- (5) Section C – Mishap Response Planning includes summary of Mishap Response Plan (MRP) contents and details were moved to the newly published MRP TTP.
- (6) Section D – Mishap Reporting includes updates and clarifications to initial, interim and final notifications and reporting requirements for all levels of mishap analysis. Emphasized Occupational Safety and Health Administration (OSHA) 8-hr and 24-hr reporting requirements for civilian injuries. Updated Mishap Analysis Report (MAR) endorsement and Final Safety Message (FSM) requirements.
- (7) Section E – Mishap Analysis includes general structure, sequence and content modifications throughout.
- (8) Section F – Mishap Analysis Management consolidates primary information linked to privileged safety information and includes general structure, sequence and content modifications throughout.
- (9) Section G – Safety Information Management includes general structure, sequence and content modifications throughout.
- (10) Section H – Responsibilities includes updates, modifications and clarification of general responsibilities.
- d. Chapter 5 – Councils and Committees. Added Human Factors Council and Joint Service Safety Council.
- e. Chapter 9 – Respiratory Protection Program. Added content on Chemical, Biological, Radiation, Nuclear equipment for clarity. Added content on fit testing including requiring completion annually.
- f. Chapter 12 – Asbestos Awareness Program. Clarified policy on Asbestos Medical Surveillance Program (ASMP). Referenced new Asbestos Awareness Program TTP.
- g. Chapter 13 – Confined Space Entry Program. Added Coast Guard specific confined space and enclosed space definitions. Changed Coast Guard Competent Person to Marine Inspector.
- h. Chapter 16 – Motor Vehicle and Recreational Off-Duty Safety Program. Added requirement to complete a Driving Improvement Course for personnel convicted of a serious moving violation or involved in a serious traffic accident while driving a government vehicle. Clarified policy on acceptable Motorcycle Safety refresher training courses and reimbursement for those courses. Updated maximum combined duty and driving hours to not exceed 14 hours.
- i. Chapter 18 – Shore Fire Protection Program. Clarified requirements for Aircraft Rescue and Fire Fighting (ARFF) Protection.

- j. Chapter 20 – Aviation Safety Program. Made several content and structural changes based on Safety Management Systems and should be reviewed in its entirety.
 - k. Chapter 21 – Afloat Safety Program. Added requirement for surface safety systems post-graduate education and corresponding surface safety specialist competency.
 - l. Chapter 23 – Non-Ionizing Radiation Program. Added details for reporting of laser incidents for all Coast Guard units that align with baseline reporting requirements in Chapter 3.
 - m. Chapter 25 – Environmental Health Program. Clarified Food Service Sanitation Program policy.
 - n. Chapter 27 – Lead Hazard Control Program. Added new Chapter.
 - o. Chapters 4 through 27 Paragraph A (Discussion). Revised to a standard structure focusing on the most relevant content.
 - p. 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 CE # 33 from further environmental analysis, in accordance with Section 2.B.2. and Figure 2-1 of the National Environmental Policy Act Implementing Procedures and Policy for Considering Environmental Impacts, COMDTINST M16475.1 (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.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:
<http://www.uscg.mil/forms/>; CG Portal:
<https://cgportal2.uscg.mil/library/forms/SitePages/Home.aspx>; Intranet at
<http://cgweb.comdt.uscg.mil/CGForms>.
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

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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 United States Code (U.S.C.), §651 et seq, Title 29 Code of Federal Regulations (CFR) §§1900 to 2400
 - (d) Title 29 CFR §1960, "Basic Program Elements for Federal Employee Occupational Safety and Health (OSH) Programs and Related Matters"
 - (e) Risk Management, 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.
 - 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 unhealthful 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). RACs are defined in Chapter 4 of this Manual. 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 (DOL), 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 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 that are applied continuously throughout any activity to identify, assess, control, and monitor safety and environmental health hazards.

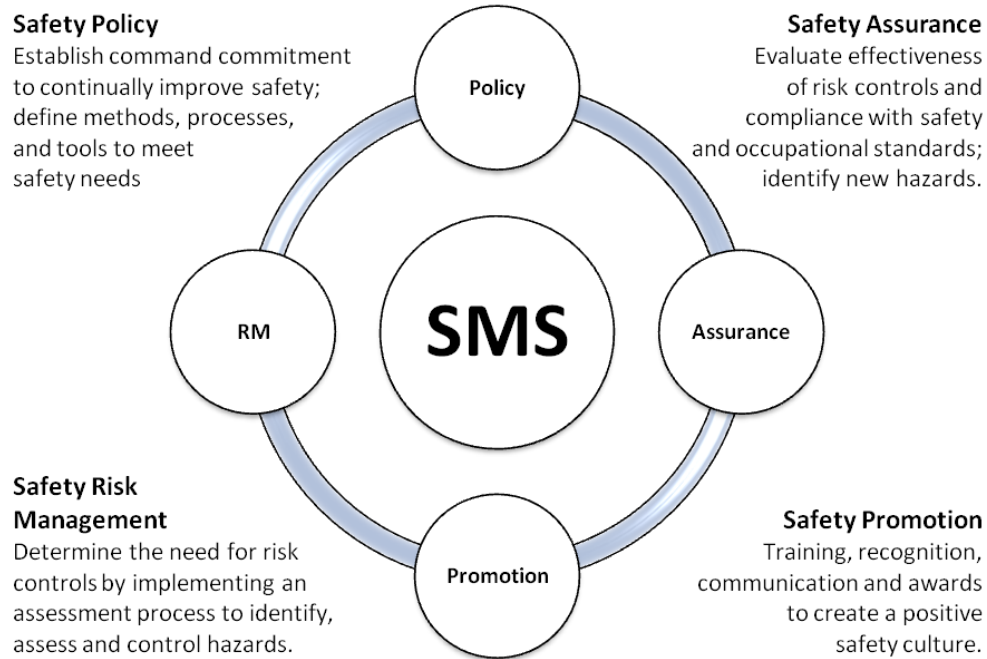


Figure 1-1: Safety Management System (SMS) Framework

- 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 Safety and Environmental Health Policy, that states:
1. The Coast Guard's overarching safety and environmental health policy is to provide personnel a safe and healthful 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, but also for 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 which is consistent with federal occupational safety and environmental health standards and meets the requirements of the SMS program.
 2. 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 which 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.
 3. 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, COMDTINST M3500.3 (series)
- (f) Title 29 U.S.C. §668, "Programs of Federal Agencies"
- (g) Coast Guard Medical Manual, COMDTINST M6000.1 (series), Chapter 12 - Occupational Medical Surveillance and Evaluation Program (OMSEP)

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 Department of Homeland Security (DHS) agencies.
2. Application. Coast Guard SEH requirements apply in all Coast Guard activities throughout the continental United States, Hawaii, and Alaska, Guam, Puerto Rico, and other U. S. territories and possessions. 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 which 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 which 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 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 Occupational Safety and Health Administration (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, and modification; 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) Title 29 CFR §1904 Accident Reporting Requirements for Federal Employees – applicable to mishaps and incident reporting.
 - (2) Title 29 CFR §1910 General Industry – sets standards that are applicable to all Coast Guard units except those designated as performing uniquely military operations as described in Chapter 1 of this Manual.
 - (3) Title 29 CFR §1915 Shipyards – 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) Title 29 CFR §1926 Construction – applicable to all Coast Guard construction projects and sites.
 - (5) Title 29 CFR §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) Title 40 CFR, “Protection of Environment”

- (b) Title 41 CFR, Subtitle C, Chapter 102, “Federal Management Regulation”
 - (c) Title 49 CFR, Subtitle B, Chapter I, Subchapter C, “Hazardous Materials (HAZMAT) 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. 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 when referenced in a Coast Guard directive or, if no Coast Guard directive or standard exists, serve as guidelines and standards of good practice.
 2. 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)).
 3. 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 Chief, Safety and Environmental Health (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. Chief, Safety and Environmental Health (CG-113) can delegate approval of temporary variances to HSWL SC (se).
 4. 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).
 5. 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 Department of Homeland Security (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 which 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 Human Capital Officer (CHCO) administrators the overall DHS Safety and Health Program, and:
 - a. Establishes an organization with adequate budgets and staff to implement Title 29, U.S.C., Chapter 15, "Occupational Safety and Health" Executive Order (EO) 12196, and Title 29 CFR §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) has the same responsibilities as the DASHO as described under Title 29 CFR §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 which 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). Assistant Commandant for Human Resources (CG-1) serves as Technical Authority (TA) for Human Systems Integration in accordance with Reference (d) across the entire asset lifecycle. Assistant Commandant for Human Resources (CG-1) also serves as the Chair for the Coast Guard Safety and Occupational Health Council (CG-SOHC).
4. Director, Occupational Safety and Environmental Programs (OSEP). The Director, Health, Safety, and Work-Life (CG-11), responsibilities include:
- a. Assist the DSHO by providing direction and oversight of the safety and health program.
 - b. Serve as member 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.
 - g. Ensure appropriate goals and objectives are established for reducing accidents, injuries, and illnesses.
5. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) is the Program Manager (PM) for the Coast Guard SEH and Safety Management System (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. Liaison 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 IT (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 Warranting Officer for Human Systems Integration (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 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, schedule, and cost throughout the system's lifecycle. System Safety covers the entire spectrum of environment, safety, and occupational health (ESOH) considerations. It is an integral part of the SE process and specific activities are required throughout the different phases of the acquisition lifecycle. 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 Policy for Safety, Mishap Prevention, Occupational Health and Fire Protection Programs, SECNAVINST 5100.10 (series) and Navy System Safety Program Policy, OPNAVINST 5100.24 (series). 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 Program Manager (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 projects. Prior to exposing people, equipment, or the environment to known system-related ESOH hazards, an acquisitions PM must document that the associated risks have been accepted by 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-9-7.
- (4) Upon implementation of all available risk management 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 projects. This occurs as a Coast Guard acquisition project 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 systems engineering responsibilities, 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 risk management 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 and environmental sanitation 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).
Director, Health, Safety, and Work-Life (CG-11) has delegated the responsibility for SEH support services, with the exception of the aviation safety program as described in Chapter 20, to the HSWL SC:
 - 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 issues.
 - 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 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.
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.
11. 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) with support staff as required.
 - c. Maintain a Mishap Response Plan (MRP) coordinated with host and tenant facilities, as needed.
 - d. Establish a Permanent Mishap Board (PMB). See Chapter 3 of this Manual for details.
 - e. Establish Sectors 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/tagout, 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 Personal Protective Equipment (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, 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).
 - (2) Respirator Protection coordinator per Chapter 9 of this Manual.
 - (3) Asbestos management coordinator per Chapter 12 of this Manual.
 - q. Implement other specialized programs, as applicable, and detailed in this Manual.
12. 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/Manager 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/tagout, 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).
 - (2) Respiratory Protection Coordinator per Chapter 9 of this Manual.
 - (3) Asbestos Management Coordinator per Chapter 12 of this Manual.
13. Safety Officer. To underscore the importance of the command responsibility for safety, the unit's second in command (i.e. Deputy, XO/XPO) is the designated Safety Officer for that unit. The Safety Officer implements the unit SEH program per this Manual.
14. Safety Manager. Sector Commanders or COs of shore units with more than 50 personnel must appoint a Safety Manager. Safety Managers assist the unit Safety Officer (e.g. XO, Deputy, XPO) with day to day management and oversight of the unit's SEH program.
- a. Safety Managers must comply with SEH assessment, prevention and hazard reporting requirements are detailed in Chapter 4 of this Manual.
 - b. Sector Commands with aviation assets and Air Stations must comply with the Aviation Safety Organization requirements detailed in Chapter 20 of this Manual.
15. Assistant Safety Officer/Manager. Assistant Safety Officers/Managers (Formerly referred to as the Unit Safety Coordinator) are assigned by cutters and Sector subordinate units. They work directly with the designated Safety Manager/Safety

Officer to implement the unit's SEH program. Sectors Commands with aviation assets and Air Stations must comply with requirements detailed in Chapter 20.

16. Aviation Safety Officers. Each aviation command must have an assigned or appointed Flight Safety Officer (FSO) to advise and assist the CO/Safety Officer 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.
17. Safety Petty Officer (SPO). Commands are encouraged to assign appropriate Petty Officers as SPOs for individual shop spaces. SPOs provide safety leadership and monitor safety practices. SPOs serve as a safety role models and do not necessarily have to be the senior shop petty officer. 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 SPOs are highly recommended and can be coordinated through HSWL SC (se).
18. 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 indentify 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.
19. 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 safety officer 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) U.S.C. Title 29, §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 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) Public Affairs Manual, COMDTINST M5728.2 (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) U.S.C. Title 49, §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) NARA Record Schedule N1- 330-10-003 Office of the Under Secretary of Defense Personnel and Readiness, Consolidated Records Schedule for the Military Service Treatment Records (STR), February 18, 2010

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 Chief, Health, Safety, Work-Life Service Center, Safety and Environmental Health Division (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 (t).

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 undesirable 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 of 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] Exposures that result in a chronic 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 which result in an acute health hazard exposure examination per Reference (b).
 - [3] Acute direct bodily contact exposures to Bloodborne Pathogens (BBP) without a functional Personal Protective Equipment (PPE) barrier during the performance of operational duties.

- [4] Occupational exposures to active tuberculosis that result in subsequent tuberculosis infections.
 - [5] Acute health hazard exposure examinations and other reporting and surveillance requirements are detailed in Reference (b).
- (2) Active Duty. Coast Guard active duty military personnel 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 that 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 Occupational Safety and Health Administration (OSHA) Form 301 found at <https://www.osha.gov/recordkeeping/RKforms.html> under Reference (c) or on Office of Workers' Compensation Forms CA-1 and CA-2 found at <http://www.dol.gov> under "Forms" and then "Forms by Form Number" (as per Title 20 CFR §10) 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, 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.
 - (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 which 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.
 - f. Any personnel injury that occurs as a result of warning shots or disabling fire.
 - 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) events where Coast Guard personnel are exposed to laser emissions that exceed the Maximum Permissible Exposure (MPE) limits described in Chapter 23 of this Manual. Aviation-specific laser reporting criteria is detailed in Paragraph B.3.k below.

- j. Any events that identify possible deficiencies in current operational policy or procedures; allowances, outfits or Personal Protective Equipment (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 a few exceptions. 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. 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.
 - 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. Emergency breakaway during replenishment, Helicopter in-Flight Refueling (HIFR) unless it was done intentionally for training.
- j. Things Falling Off Aircraft (TFOA). Any object unintentionally dropped or falling from an aircraft must be reported regardless of damage or injury.
- k. Laser Exposure. General laser exposure reporting criteria for all members are included in Paragraph B.2.i above and Chapter 23. Aircrews encountering a direct eye strike from an external laser source (from ground or other aircraft) must be reported regardless of degree of exposure or severity of injury. Additional aviation laser event response and reporting requirements are detailed below:
 - (1) Personnel affected must seek medical evaluation as soon as practicable prior to resumption of flight duties.
 - (2) Aircrews encountering a direct eye strike from an external laser source must adhere to laser illumination response and reporting requirements in Reference (f).
- l. 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 proximity 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. Near midair incidents should be treated and reported as Flight-Related Class D mishaps.
 - (3) A serious near midair collision, as defined Reference (f), is an incident where the possibility of collision occurred and either aircraft took evasive action or bodily injury occurred.
 - (4) Report significant incidents involving Traffic Collision Avoidance System (TCAS) as Flight-Related Class D 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 mishaps include on-duty civilian and Department of Defense (DoD) personnel, 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), and special-purpose motor vehicles.
 - b. Towing and Trailing. 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, Injury, or Criminal Activity. Intentional damage or injury caused by hostile action, malicious acts of sabotage or arson, law enforcement action ordered by competent authority, and intentional damage or destruction for research and development purposes are not mishaps and are, therefore, not

reportable as such. Upon determination of criminal activity, including intentional Absent Without Leave (AWOL) status, the event is no longer considered reportable.

- b. Intentional Acts of Violence and Criminal Activity. Suicide, homicide or other malicious and intentional acts of violence that result in physical harm or property damage under the established mishap thresholds (e.g., vandalism, riots, civil disorder, sabotage, muggings, etc.) are not mishaps and are, therefore, not reportable as such.
- c. 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.
- d. 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.
- e. 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 reporting criteria are met (e.g. medical treatment beyond first aid).
- f. Hospitalization Extension for Administrative Reasons. Inpatient hospitalization for treatment where the patient is retained beyond the day of admission solely for administrative reasons unless other reporting criteria are met (e.g. medical treatment beyond first aid).
- g. Medical Reaction. An unwanted or unexpected negative reaction to a medication or treatment that is used in an approved manner.
- h. 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.
- i. 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.
- j. 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.
- k. Non-Occupational Illnesses/Medical Conditions. Illnesses or medical conditions which cannot be associated with an occupational exposure.

- l. Minor, On-Duty Injuries. Injuries to military or civilian employees (in the performance of official duties) that require no more than simple first aid.
- m. 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.
- n. 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.
- o. Contractor Mishaps. Contractor mishaps in which the contractor employee is not under the direct supervision of Coast Guard personnel.
- p. Property Damage. Damage to Coast Guard non-aviation property where damage is less than \$5,000.00.
- q. Conditionally Predicated Damage. Damage which cannot be reasonably prevented (e.g., range or forest fires, floods, or seismic events).
- r. Testing and Calibration. Damage or failure of equipment or components due to normal testing and calibration. If the failure or malfunction is the expected outcome of the testing, the event is not reportable.
- s. Normal Wear and Tear of Equipment. Damage, malfunctions or failures of equipment or components due to normal wear and tear, if it has a fixed useful life less than the complete system. These items are subject to periodic inspections, maintenance and replacement, and are not reported as mishaps.
 - (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 causes collateral damage to other components or personnel injury, the incident is reportable.
 - (3) Design defects, poor workmanship, incorrect use of materials and improper installation are not considered normal wear and tear.
- t. 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 occurred in the vicinity of an airport, the airport manager might require and benefit from a report.
- u. 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.

- v. 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. 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 are met.
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. 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. 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.
 - (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 TAD, or an unauthorized absentee.
 - (2) Reservists are considered off-duty from the time they depart home/office until they reach their appointed site of duty for drill, and from the time they depart the drill site until they reach their domicile or government provided billeting at the conclusion of the scheduled drill or drill periods.
 - (a) Example A. A Coast Guard reservist departs his domicile for the drill site. En route he is involved in a privately owned vehicle mishap. Report as an off-duty motor vehicle mishap.
 - (b) Example B. A Coast Guard reservist completed her drills for Saturday and is scheduled to return the following morning. During the evening she is involved in a motor vehicle mishap. Report the mishap as an off-duty motor vehicle mishap.
 - (3) Participating during non-working hours in base or installation team sports and events sponsored by the command and participation is voluntary.
 - (4) 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 the 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. Simple 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. 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 indirect costs but excluding costs related to recovery or salvage. 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 COMDT MAB activation, toxicology sampling, 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 or E mishap 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 (72-hour preliminary report) and alert the field to a potential hazard. The difference between a Class C, D or E 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) Property Damage Defined. For mishap reporting under this Manual, the property damage cost of a mishap is the total cost of Coast Guard and non-Coast Guard property damage resulting from the mishap. Property damage includes:
- (a) The actual cost of materials and parts. Parts cost includes the cost to repair damaged parts (if repairable) or the replacement cost of damaged or destroyed parts. For Coast Guard assets, use approved logistics information systems (e.g., Asset Logistics Management Information System (ALMIS), Logistics Information Management System (LIMS), etc.) cost data when available.
 - (b) The cost of direct repair labor hours.
 - (c) The cost of unscheduled dry docking for vessels.
- (8) Property Damage Cost Estimation.
- (a) When multiple resources are damaged or destroyed during a single event, calculate the damage in a single mishap report.
 - (b) Use only direct costs to determine mishap damage costs. Direct costs are those cost directly attributable to the loss of an aircraft, associated loss of life, and property damage directly resulting from the mishap.

(c) Indirect costs are NOT used in determining the mishap cost. Indirect costs are those that are incurred during the mishap analysis process (e.g. travel and per diem costs for board members, specialized technical assistance, site security, wreckage recovery, site restoration, etc.).

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

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.

a. Aviation. Mishaps involving Coast Guard aircraft and UAS must be reported under the Aviation OPMODE. Mishaps involving Coast Guard aircraft and UAS embarked or attached to vessels must be reported under the Aviation OPMODE. The CO of the vessel serves as the mishap reporting custodian. Mishaps occurring while an aircraft is in transit from or to its home unit are reported by the home unit. Aviation OPMODE mishaps are divided into the following four types.

(1) Flight Mishap. Mishaps involving Coast Guard aircraft/UAS damage or loss with or without other property damage, personnel injury/death, or occupational illness, where intent for flight existed at the time of the mishap.

(2) Flight-Related Mishap. Mishaps where there is no Coast Guard aircraft/UAS damage. Intent for flight must have existed at the time of the mishap, and other property damage, death, injury or occupational illness is possible. This includes near midair collisions, non-aircraft damage or injuries caused by rotor wash, and other reportable events with NO reportable Coast Guard aircraft/UAS damage.

(3) Aviation Ground Mishap. Mishaps involving damage to Coast Guard aircraft/UAS or aviation equipment, or where death, injury, or occupational illness occurred and no intent for flight existed (e.g., towing, maintenance, run-ups, servicing, etc.). Aviation Ground mishaps imply no intent for flight and include maintenance or handling mishaps of aviation/UAS assets while deployed aboard vessels.

(4) Coast Guard Auxiliary Aviation Mishaps. Mishap involving damage to Auxiliary aircraft or the death, injury, or occupational illness to Auxiliary aviation personnel operating Auxiliary aircraft while under official orders. These mishaps must be reported per Reference (d) using the appropriate electronic mishap reporting system.

b. Afloat. These include mishaps occurring onboard or resulting from or during the operation of a Coast Guard cutter or boat, or involving a non-Coast Guard vessel upon which a Coast Guard mission is being performed. Afloat mishaps also include on-duty diving or swimming operations, and mishaps occurring while loading, off-loading, or receiving services at dockside. Amplifying information:

- (1) Afloat mishaps occur when Coast Guard personnel, in the performance of their duties, are injured on a commercial, private or other government agency vessel. For example, this would include mishaps that occur to Coast Guard personnel while performing official duties while onboard a commercial or recreational vessel (e.g., law enforcement boardings, inspections, investigations).
 - (2) Mishap reports must distinguish between boats assigned to cutters and boats assigned to shore units.
 - (3) The vessel boundary includes the gangway, all shore ties, and mooring lines to their point of attachment on shore.
 - (4) Mishaps that occur while moored or anchored are afloat mishaps.
 - (5) If the mishap occurs while a Coast Guard vessel is docking or undocking with its propulsion system energized, it is an afloat mishap.
 - (6) If the mishap occurs while a Coast Guard boat is trailered (on the road or while attached to the trailer as it is going into or out of the water), it is a motor vehicle mishap. Mishaps that occur during launch and recovery operations of the boat after it has been released from the trailer are considered afloat mishaps.
 - (7) Mishaps involving helicopters embarked on or attached to vessels must be reported in the aviation OPMODE. The CO of the vessel is the reporting custodian. Mishaps occurring while the helicopter is in transit from or to its home unit are reported by the home unit.
 - (8) 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 the five types listed below. Mishaps that occur on or off Coast Guard property where Coast Guard military personnel (on and off-duty) and on-duty Coast Guard civilian personnel are involved. Shore mishaps also include civilian, DoD personnel, and dependent activities on Coast Guard property, and Auxiliary members assigned to duty.
- (1) Operations Ashore. A mishap resulting from operations that occur while ashore, for example: 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.
- 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.

C. Mishap Response Planning.

1. Mishap Response Plan (MRP). Units must develop and implement a Mishap Response Plan (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 into 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.

- 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 most of 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 MAB assumes custody, or the CO/OIC directs otherwise. If convened, the MAB president determines use of evidence.
 - (6) Medical Considerations. Flight Surgeon/medical officer response; 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; 72-hour history; autopsies;
- 2. Permanent Mishap Board (PMB). Units must establish a Permanent Mishap Board (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	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	Arrival / 72 Hrs / Adjourn See Notes 2, 3	30 Days: MAR Part A ≤ 60 Days: Final MAR
C	See Note 1	72 Hrs HIPO only	See Note 4	14 Days
D	See Note 1	72 Hrs HIPO only	See Note 4	21 Days
E	See Note 1	72 Hrs HIPO only	See Note 4	30 Days
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
<p>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.</p> <p>Note 2: MAB arrival, 72 hr, and adjournment messages; critical info/updates as required and directed.</p> <p>Note 3: If MAB discovers of information that seriously impacts operations, immediately notify CG-113.</p> <p>Note 4: If a MAB is convened, submit progress messages as directed by convening authority.</p> <p>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 CG-113.</p> <p>Note 6: Notify local OSHA or (800) 321-OSHA; 24 hrs: In-patient hospitalization, loss of eye, amputation.</p>				

Table 3-1: General Mishap Notification and Reporting Timelines

1. **Initial Phone Notification.** 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 are per Critical Incident Communications, COMDTINST 3100.8 (series) (FOUO).
 - b. 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 are in compliance 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) do 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. For all reportable aviation mishaps, units must submit an e-AVIATRS 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 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/>.

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 and activate the automated report generation feature to submit the required e-mail message notification through the Administrative Official Information Exchange (Admin OIX).
 - b. Mishap units must complete a preliminary mishap database entry and message notification 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 72 hours after all Class C or D 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 lessons learned and to 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 (1).

- 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 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 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).
6. MAB Initial Reports and Messages.
- 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 ensure 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).
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).
 - (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 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 to confirm all MAR 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. Simply stating that the MAB examined specific documents/records and found them in order is sufficient. Required MAR contents vary depending on the circumstances of the mishap and complexity of the analysis. Once a MAB is convened, the appointing authority must provide an updated MAR Template, an informational briefing and other guidance to the MAB President. Unless otherwise directed by the convening or appointing authority, the MAR must contain the following information.
- (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. Examples of Part A contents include: General mishap information; mission data; environmental/weather information; injury and damage summaries; maintenance history; training and experience information; and other relevant topics of importance. 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.

- (a) Examples of Part B contents include MAB deliberative analysis such as lines of evidence, rejected/accepted mishap factors, additional findings and recommendations.
 - (b) The MAB must assign DoD Human Factors Analysis Classification System (HFACS) nanocodes described in Reference (m) to all accepted causal factors related to the mishap to ensure accuracy of final entries into the Coast Guard mishap reporting database.
 - (c) Part B Enclosures include privileged information directly applicable to the mishap event. Include contents derived from a promise of confidentiality in MAR Part B.
- (3) Medical Officer's Report (MOR). If included, the Medical Officer's Report (MOR) is provided as a separate part. The MAB Medical Officer 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.
 - (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 Examination System (AFMES). Contact at (302) 346-8648 prior to delivery or go to: www.afmes.mil.
- (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 Personally Identifiable Information (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 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 of 1974 is found in Paragraph G.2.g of this Chapter and Reference (o).
 - (e) The MAB must not include information protected under the Health Insurance Portability and Accountability Act (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) Final 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 the MAR if directly related to mishap influences or can assist in understanding of the MAR.
- (5) Additional Findings. Any information discovered during the mishap analysis that is not directly related to a mishap causal factor but identifies deficits that if not corrected, could result in future mishaps must be documented in the Additional Findings Section of the MAR. The MAB President should contact Commandant (CG-113) for guidance regarding proper handling of such information.
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. 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 Commandant Safety Board (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. The CSB report is delivered to the VCG by Commandant (CG-11). The CSB report contains the following elements:
- (1) Synopsis. A summary of the mishap from the MAR, rewritten or condensed as needed.
 - (2) Classification. Mishap classification and summary of injuries and property damage costs.
 - (3) Causal Factors. Provide a supporting analysis for all accepted causal factors directly attributable to the mishap using the Department of Defense Human Factors Analysis and Classification System (DoD HFACS). Summarize any rejected causal factors that without direct knowledge of the evidence, might otherwise be considered causal factors.
 - (4) Additional findings. Factors such as latent failures or conditions which, while not directly related to the subject mishap, could lead to other mishaps.
 - (5) Recommendations. Recommend corrective actions to address mishap causal factors and additional findings. Corrective actions focus on elimination or mitigation of hazards to prevent future mishaps. Include a listing of all recommended corrective actions, including those already completed.

- 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 COMDT MAB. When necessary, the VCG will direct or Commandant (CG-11) will recommend implementation of corrective actions to prevent repeat mishaps. The FSM might include supporting documentation in attachments (e.g., CSB report, photos, etc.) for review and consideration by operational and support stakeholder addressees. The FSM contains privileged FOUO materials that are prohibited from release to the public and are exempt from the FOIA. 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 Tracking. FSM VCG directed and Commandant (CG-11) recommended corrective actions are entered into mishap reporting databases. Commandant (CG-113) coordinates with action addressees to update and track all directed corrective actions through resolution and closure.

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 Mishap Boards. 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. HSWL SC Mishap Analysis Board (HSWL SC MAB). The HSWL SC MAB is a unit PMB mishap analysis supplemented by HSWL SC (se) that can be convened for off-duty Class A & B mishaps and for Class C & D mishaps of high interest.
 - c. Commandant Mishap Analysis Board (COMDT MAB). The COMDT MAB is the primary mishap analysis body for all on-duty Class A and B mishaps. Analysis Board Member.
 - d. Commandant Safety Board. The primary purpose of the Commandant's Safety Board (CSB) is to validate the findings of the COMDT MAB and recommend corrective actions to Vice Commandant of the Coast Guard (VCG). The CSB Precept lists the duties and responsibilities of the CSB.
 - e. 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).
 - f. 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.
 - g. Aviator Evaluation Board (AEB). An AEB is convened following all Class A aviation mishaps per Reference (p).
 - h. Coast Guard Mishaps Involving More Than One Coast Guard Unit. Mishap reports involving personnel or equipment from more than one Coast Guard unit for which a COMDT MAB is not assigned are generally the responsibility of the unit with tactical control over the asset or personnel involved.

- (1) If unclear, the Senior Command must assign a lead unit to complete the mishap report. The unit conducting the analysis must collaborate with the other unit(s) involved in the mishap to allow for the review of the analysis results and integration of other unit Command Officer comments.
 - (2) For aviation mishaps, the unit signing the flight schedule submits the mishap report.
 - (3) All mishaps that involve aviation assets must be entered into e-AVIATRS. When entries are made into two mishap reporting systems avoid duplicate entry of injury or damage cost data to prevent double accounting (e.g., hoisting mishap, injury and/or damage to vessel and aircraft, etc.).
- i. 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) describes applicable DoD accident investigation and reporting requirements after a joint service mishap.
 - j. 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.
 - k. 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.
 - l. National Transportation Safety Board (NTSB) Mishap Investigations. The Coast Guard must coordinate with the NTSB following a mishap involving both civil and Coast Guard asset occurs. 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.
- m. 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, Department of State (DOS), 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. 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. 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 COMDT 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. Safety Officer, typically the unit Executive Officer/Executive Petty Officer.
 - (2) Engineering Advisor. Typically the Engineer Officer/Engineer Petty Officer.
 - (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, etc.).
 - (5) Supplemental Members. Commandant (CG-113) or HSWL SC (se) can arrange for supplemental members (i.e. Standardization Team member, Flight Surgeon, etc.) and additional technical expertise, if requested.
- b. HSWL SC MAB. The primary purpose of HSWL SC MAB is to provide a trained safety professional and/or a human factors trained subject matter expert to assist a PMB with conducting a mishap analysis. A HSWL SC MAB can be provided at the request of the mishap unit, or at the discretion of HSWL SC (se), and has the same authorities as a unit PMB. HSWL SC (se) is authorized to appoint members and provide technical assistance as needed.
- c. COMDT MAB. The primary purpose of the COMDT MAB is to conduct mishap analysis for all on-duty Class A and B mishaps and other high-interest mishap events that might require in-depth or specialized safety analysis. Commandant (CG-11) must consider mishap event circumstances and direct the appropriate level of safety analysis, including the convening of a COMDT MAB or other focused analyses. Commandant (CG-113) is authorized to appoint members and determine scope of COMDT MABs and other Commandant (CG-11) directed analyses. Once appointed, members must not be assigned any other duties while convened or otherwise engaged in mishap analysis activities. All unrelated duties and responsibilities must be put on hold or the member must request to be replaced. All COMDT MAB members must sign and comply with the provisions of a MAB Non-Disclosure Agreement provided by Commandant (CG-113). COMDT 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.). MAB Presidents should have completed the U. S. Air Force Board President's Course or have previous COMDT MAB experience.
 - (2) Flight Surgeon or Medical Officer. A Flight Surgeon or Medical Officer must be appointed for all operational Class A and B mishap analyses. Commandant (CG-112) must select the Flight Surgeon or medical member.
 - (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) Mishap Analysis Assistance Team (MAAT) Members. Members of the MAAT are appointed by Commandant (CG-731) to provide subject matter expertise to the unit's PMB in preparation for a COMDT MAB arrival. MAAT members assist the PMB with mishap response procedures in such areas as evidence collection, and toxicology and securing the scene. The MAAT member can be appointed to the COMDT MAB once the MAB President has arrived on scene.
 - (e) Subject Matter and Technical Experts. Subject matter and technical experts might be directed to assist COMDT MABs based on the circumstances of the mishap. Subject matter and technical experts do not participate in the deliberations or interviews and do not sign the MAR. 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 or HSWL 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.
- d. 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, and fax machines; office supplies; paper supplies; telephone service; use of government vehicles; use of audio-visual equipment; and administrative personnel to support the MAB on request or when ordered by the convening authority.
- e. 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 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 linked to corrective actions (e.g. FORCECOM, CG-9, etc.).
 - (3) Flight Surgeon/Medical Officer. Commandant (CG-112) must provide a Flight Surgeon or medical officer to CSBs involving injuries or deaths.

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. HSWL SC (se) or Commandant (CG-113) advises all active MABs and complex 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.uscg.mil/safety/marg.asp>.
 - 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 factors describe how our interaction with tools, tasks, working environments and other people influence human performance. Human factors are the leading cause of Coast Guard and DoD mishaps. To ensure uniform collection and analysis of human factors resulting from military mishaps, the Coast Guard and Joint U.S. military services mandate use of DoD Human Factors Analysis and Classification System (HFACS) detailed in Reference (m).
 - (1) COMDT MAB and CSB members must use DoD HFACS and applicable HFACS codes in the final MAR and CSB Report.
 - (2) HSWL SC MABs with an HFACS-trained member/advisor must use DoD HFACS and applicable HFACS codes in the final mishap report.
 - (3) 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 MAR Medical Officer's Report (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 www.AFMES.mil under Resources – Toxicological Shipping Guidelines.
 - (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.uscg.mil/civilianHR/staffing/dfwp.asp>.
 - (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 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.
- e. 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 3rd 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 (COMDT or HSWL SC) is convened and optional for PMB analysis. The 72-hour information is non-privileged (factual) information unless provided under an authorized promise of confidentiality.
- f. 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.
 - (1) 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.
 - (2) Use the HFACS framework to identify mishap human factors influences.
- g. 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. In almost every mishap there are going to be anomalies that cannot be explained. Not everything must be proven beyond a shadow of a doubt. Often, the most likely causes are all that can be cited.
- h. 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, 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) 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, Safety Officer, 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 COMDT 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) which 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, 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's completed by the mishap analysis board. 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 COMDT 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, Safety Officer, 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 an 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 hazardous materials (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, the HIPAA and the Privacy Act.
 - d. Human Remains. The MAB Medical Officer 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 of a military reservation, the Medical Officer 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).

- (2) 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. COMDT MAB Witness Interviews.

- (1) Witnesses must not testify under oath.
- (2) The COMDT 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 NoK/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. COMDT 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) COMDT 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 COMDT 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. HSWL SC MAB and 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) Boards 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:

UNCLAS FOUO

////////////////////////////////////
WHAT FOLLOWS MAY CONTAIN PRIVILEGED SAFETY INFORMATION
USE FOR MISHAP PREVENTION PURPOSES ONLY
////////////////////////////////////

The last line of mishap messages must include: Internet Release Not Authorized

- b. Final Safety Message (FSM). The first lines of the FSM must include:

UNCLAS FOUO //N05102

////////////////////////////////////
THIS MESSAGE CONTAINS PRIVILEGED SAFETY INFORMATION.
USE SOLELY FOR MISHAP PREVENTION PURPOSES INCLUDING
PLANNING, TRAINING, AND POLICY DEVELOPMENT. FURTHER
DISTRIBUTION, USE, OR DISCLOSURE OF INFORMATION IN THIS
MESSAGE OR ENCLOSED FILES MAY RESULT IN DISCIPLINARY
ACTION UNDER THE UCMJ OR CIVILIAN PERSONNEL REGULATIONS.
////////////////////////////////////

The last line of mishap messages must include: Internet Release Not Authorized

- 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 MAY CONTAIN 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 Chairman and Ranking Minority Member. The Chairman 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 which 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 ADFSOU.
 - (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-AVIATRIS generates an abbreviated mishap report containing only factual data which 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). Vice Commandant of the Coast Guard (VCG) must:
 - a. Convene Commandant Safety Boards (CSB) 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). Deputy Commandant for Mission Support (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 Mishap Analysis Board (MAB) report process for Class A and B mishaps.
4. Director, Health, Safety and Work-Life (CG-11). Director, Health, Safety and Work-Life (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 COMDT MABs.
 - d. Serve as Executive Secretariat to VCG on all MAB and CSB processes.

- e. Serve as a release authority for Final Safety Messages (FSMs).
 - f. Serve as the Coast Guard point of contact (POC) for interagency mishaps.
5. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must:
- a. Manage, direct, oversee and supervise Coast Guard mishap response, investigation, analysis, reporting and record-keeping.
 - b. Serve as the appointing authority for MABs.
 - c. Recommend prospective CSB members to Commandant (CG-11) for appointment.
 - d. Provide administrative support to fulfill Commandant (CG-11) role as CSB Executive Secretariat.
 - e. Ensure Mishap Analysis Reports (MARs) comply with convening order tasking prior to endorsement phase.
 - f. Serve as the releasing authority for mishap asset/wreckage when COMDT 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. Maintain an electronic master file of completed MARs.
 - k. 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.
 - l. Serve as Coast Guard coordinator for interagency mishaps.
 - m. Coordinate with HSWL SC (se) to provide a safety program representative to assist MABs.
 - n. Ensure MAB and CSB findings are captured in the appropriate electronic mishap reporting database.
 - o. 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 Flight Surgeons and/or Medical Officers 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 Medical Officer's Report (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.
7. National Command Center (CG-DCO-NCC). The National Command Center 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. Report status of outstanding FSM-directed/recommended corrective actions to Commandant (CG-113) electronically, at least semi-annually.
 - e. Review and consider Class C and D mishap recommendations received from Commandant (CG-11). Implement recommendations as appropriate.
 - 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. Report status of outstanding FSM-directed/recommended corrective actions to Commandant (CG-113) electronically, at least semi-annually.
 - d. Review and consider Class C and D mishap recommendations received from Commandant (CG-11). Implement recommendations as appropriate.
 - 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. Report status of outstanding FSM-directed/recommended actions to Commandant (CG-113) electronically, at least semi-annually.
 - d. Review and consider Class C and D mishap recommendations received from Commandant (CG-11). Implements recommendations, as appropriate.
 - 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. Report status of outstanding FSM-directed/recommended actions to Commandant (CG-113) electronically at least semi-annually.
 - d. Review and consider Class C and D mishap recommendations received from Commandant (CG-11). Implement recommendations as appropriate.
 - 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 Standardization (STAN) Teams to ensure commands have an up-to-date Mishap Response Plan (MRP), and that the plan is drilled at least annually.
 - c. Report status of outstanding FSM-directed/recommended actions to Commandant (CG-113) electronically, at least semi-annually.
 - d. Review and consider Class C and D mishap recommendations received from Commandant (CG-11). Implements recommendations as appropriate.
 - e. Disseminate and integrate lessons learned.
13. Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety, Work-Life Service Center (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. Drill unit MRPs during Safety Mobile Assistance, Response and Training (SMART) Team visits.
 - d. Provide lessons learned and corrective action recommendations to Commandant (CG-113), for dissemination to appropriate Headquarters directorates for action.
 - e. Develop and update mishap response, analysis and reporting guidance and TTP to facilitate policy compliance and implementation.
 - f. Provide guidance to unit-level PMB.
 - g. Audit units to ensure compliance with non-aviation mishap analysis and reporting requirements outlined in this Chapter. 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 tenant/detached units are incorporated into an MRP appropriate for each unit.
 - d. Establish and maintain a PMB to execute the MRP.

- e. Coordinate with MAB President use of all evidence collected by the PMB.
 - f. Ensure mishap reporting requirements are met per Section D of this Chapter.
 - g. 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).
 - h. Include Mishap QRC in command center Standard Operating Procedures (SOP). Further information is available by contacting HSWL SC (se) for an example of a mishap QRC.
 - i. Ensure all reportable mishaps are analyzed, reported, and updated; and that final submission requirements are met per this Chapter.
 - j. Provide recommendations, focused on preventing similar mishaps.
 - k. Conduct and document annual training on the unit's MRP.
 - l. Provide logistical support for COMDT 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 work spaces 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) Title 29 CFR § 1960, “Basic Program Elements for Federal Employee Occupational Safety and Health (OSH) Programs and Related Matters”
- (b) Risk Management, COMDTINST 3500.3 (series)
- (c) Coast Guard Housing Manual, COMDTINST M11101.13 (series)
- (d) Title 29 CFR §1910, Subpart E, “Exit Routes, Emergency Action Plans, & Fire Prevention Plans”

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 which can cause, or are likely to cause, death or serious physical harm. Risk is defined as: the possibility of loss or injury; the exposure to a hazard or danger; and 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.
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 per Reference (b).

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 healthful work environment and keep the workplace free of serious recognized hazards. 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. Personnel conducting the inspections must use the Risk Assessment Matrix (RAM) in Reference (b) to calculate Risk Assessment Codes (RAC) for all hazards identified.
 - (b) The RAM uses a combination of the likelihood that a hazard will result in a mishap, and the potential severity of the mishap if it occurs to calculate the risk associated with exposure to any given hazard. The risk level associated with a hazard is referred to as the RAC. There are four levels of risk described by the RAC with RAC 1 posing the highest level of risk and RAC 4 posing the lowest. The risk, and corresponding required response action, for each RAC level is:
 - [1] RAC 1. An immediate and serious hazard that is likely to result in death or permanent total disability if not controlled. RAC 1 risks demand immediate cessation of operations and abatement of the hazard (within 24 hours).
 - [2] RAC 2. A hazard requiring immediate control through the use of engineering controls, administrative procedures/work practices, or personal protective equipment (PPE). If feasible or practical, the hazard should be abated as soon as possible (within 3 working days).
 - [3] RAC 3. A hazard requiring control through the use of engineering controls, administrative procedures/work practices or PPE. If feasible or practical, the hazards should be abated within the normal work cycle or engineering cycle (within 20 working days).

[4] RAC 4. A lesser risk requiring continuing surveillance to ensure the risk does not increase. Abatement is not required unless conditions change and require re-evaluation.

- (c) 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.
 - (d) 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.
 - (e) Abatement plans must be developed for hazards with a RAC of 1, 2 or 3, as per requirements in this Chapter.
 - (f) Units must retain the results of all inspections. Follow-up inspections must be conducted for workplaces with identified high risk activities to verify that hazard condition(s) have been corrected.
 - (g) Discrepancies discovered during inspections must be assigned a RAC and documented in the appropriate electronic SEH data management system (e.g., 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 Occupational Safety and Health Administration (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] Personnel conducting inspections must: be trained in the RAM process to identify and assess hazards; be provided with the equipment, tools, and guidance to conduct the inspections; and be vested with the authority and support of the command to conduct the inspections.
 - [3] Units who experience hazard exposures beyond the ability of their trained personnel to evaluate should contact HSWL SC (se) for assistance.
- 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 major cutters – those requiring Tailored Ship's Training Availability (TSTA)/ Command Assessment of Readiness for Training (CART), conduct SMART/CART visits according to CART schedule.
 - (2) Conduct SMART visits every three years for non-major cutters and shore units.
 - (3) SMART visits may be directed following reported or suspected mishap, illness, or occupational hazard; in response to unit requests or employee complaints; 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.

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. Mishap Analysis Boards (MABs). While mishaps are undesirable events, they present learning opportunities to prevent future mishaps. The MAB analysis process identifies deficiencies that if not corrected expose the organization to future occurrences of the mishap event. Chapter 3 of this Manual includes the requirements for notification, analysis, and reporting of mishap events.
- e. Operational Hazard Analysis (OHA). OHAs use system-centered analysis techniques and processes to identify system deficits that can compromise safety and performance. The objective of these assessments is to quantify the development of system domains (e.g., doctrine and guidance for the conduct of an activity, training infrastructure and requirements, personnel qualifications and proficiencies, technologies and equipment, etc.) that are necessary for the safe and effective execution of a mission. OHAs are typically conducted at the Commandant (CG-113) and HSWL level to provide more detailed analysis of potentially unsafe operations, or to proactively identify potential safety deficits associated with new programs, missions, or assets prior to implementation.
- f. Crew Endurance Management (CEM) Assessments. An asset's endurance can be described by how long it can support operations without replenishing supplies or requiring in-port maintenance. Similarly, crew endurance can be described as a function of physiological and psychological factors that support the ability of crewmembers to perform their jobs safely and effectively. While many might like to believe that the Coast Guard is always ready under any condition, this simply is not the case: erratic work/watch schedules, long work hours, insufficient sleep, and exposure to extreme environmental conditions do not allow the human body to replenish physical and mental resources, and leave even the most experienced and dedicated Coast Guard member ill-prepared to meet operational challenges and unable to maintain personal health and well-being. While certain foods (e.g., energy bars and drinks) are often used to provide a boost of energy, these external sources of energy do not replenish the basic physical and mental resources lost by sleep debt. Crew endurance can be managed, and resources are available to identify and control endurance risk factors. Reference (b) provides information on the CEM process. Units can contact HSWL SC (se) for support to implement and conduct CEM assessments.

- g. Safety Climate Assessments. 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. Use safety climate surveys to reveal unit safety climate, cultural influences, or leading indicators for mishap exposure.
 - h. 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.
 - i. Anonymous Reporting. All too often, members are well aware of hazardous states but defer from reporting the hazard(s) due to concerns of retribution or being labeled a whistle blower. Anonymous reporting can alleviate these concerns and encourage members to report hazardous conditions without fear of identification. 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.uscg.mil/forms/cg/CG_4903.pdf.
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 with a RAC of 1, 2, or 3 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 when changes occur until the hazard is abated.
 - (3) Area and District Safety and RM Committees, 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. 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, ones 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 can also often 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 workers, exercise breaks, and rotation of workers. Administrative controls, however, require ongoing and consistent training and enforcement to be effective. Controls may also be costly and increase the workload of supervisors. Because of these limitations, always use administrative controls in conjunction with other controls and replace these controls (when feasible) with more effective methods.
- (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, and medical programs.
- c. Safe Work Practices (SWP). SWP 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 Prevention 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 HEPA-filtered 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 are 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 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, 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 Tactics, Techniques, and Procedures (TTP) 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 the Safety and Risk Management (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.
 - f. Ensure that local 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.
 - i. Ensure unit personnel are familiar with the FEAP.
6. Staff elements, Department Heads, Division Officers, and Supervisors. Supervisors must:
- a. Integrate RM into workplace inspections.
 - b. Assist personnel in the conduct of risk assessments and train personnel using resources such as RM assessments, General Mandated Training (GMT), RM training, videos, and lesson guides and materials provided by the RM program manager, schoolhouses, or other sources.
 - c. Collect RM lessons learned and best practices for discussion during annual safety unit RM facilitated training.
 - d. Incorporate identified hazards, assessments, and controls into briefs, notices, and written plans to keep the Command informed of hazard exposure and RM activities.
 - e. Exercise the FEAP.

CHAPTER 5 COUNCILS AND COMMITTEES

Reference:

- (a) Title 29 CFR §1960, “Basic Program Elements for Federal Employee Occupational Safety and Health (OSH) 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
2. Risk Management Steering Committee (RMSC). The RMSC is chaired by Chief, Safety and Environmental Health (CG-113) and serves as the CG-SOHC clearing house for SEH Issues. Based on 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.
 3. 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.
 4. 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.
5. 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, Executive Officer/Executive Petty Officer (XO/XPO) and be comprised of 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 which present high risk of imminent danger, including abatement and control actions.
 - e. Keep the next higher level of command apprised 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.

6. Human Factors Councils (HFCs). HFCs are established to proactively identify and mitigate potential hazards stemming human factors deficiencies. Program requirements related to HFCs and related Human Factors Boards (HFBs) are found in Chapter 4 of this Manual.
7. 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).
8. 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.
9. 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 was originated to operate at the headquarters level, the field councils 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 Field Federal Safety and Health Council 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).
10. 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 (HSWL SC). Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC) 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 apprised 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). 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 Safety and Environmental Health Office (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 apprised 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) Title 29 CFR §1960, "Basic Program Elements for Federal Employee Occupational Safety and Health (OSH) Programs and Related Matters"
- (c) Title 29 CFR §1910, "Occupational Safety and Health Standards"
- (d) Mandatory Use Of The Training Management Tool, COMDTINST 5270.2
- (e) Title 29 CFR §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 are 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 Final Decision Safety Messages as another source of information which might identify training gaps. The training plan should also include SEH indoctrination for new employees. Units can use the 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/Safety Manager. Training for Safety Officers/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/Manager and Ground Safety Officer. Training for Assistant Safety Officers/Managers and Air Station Ground Safety Officers must, at a minimum, include completion of the Unit Safety Coordinator Course (TQC code 500813), 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/Managers and Safety Specialists must 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).
- e. Emergency Response Operations. Many missions require work in environments where personnel may encounter a spill or release of hazardous substances. Coast Guard personnel who are likely to be involved at any level in an emergency response must be trained by their commands to the level of action they are expected to take.
 - (1) First Responder Awareness (FRA). Personnel who are likely to witness a spill or release of hazardous substances but are not expected to take any defensive actions must be trained to the FRA level per Reference (e). All operational Coast Guard personnel must be trained, at a minimum, to the FRA level. The FRA training is a prerequisite to all other emergency response operations training and is available on-line via the Learning Management System (LMS).
 - (2) First Responder Operations (FRO). Personnel who are positioned to take defensive actions with the purpose of protecting nearby persons, property, or the environment from the effects of a spill/release must be trained to the First Responder Operations (FRO) level per Reference (e). On-line training is available via the LMS, however, on-line training is general in nature and

must be supplemented by hands-on training at the unit level to address area specific hazards and procedures. Personnel required to be trained at the FRO level include, but are not limited to:

- (a) Sector Command Cadre
 - (b) Sector Response and ANT small boat crews
 - (c) Sector Federal On-Scene Coordinator Representative (FOSCR) and Pollution Responder (PR) qualified personnel
 - (d) Incident Management Division Personnel
 - (e) Vessel of Opportunity Skimming System (VOSS)/Spill Oil Recovery System (SORS) Personnel
 - (f) Incident/Deputy Incident Commanders
 - (g) Incident Safety Officers
 - (h) Incident Operations Section Chief and Field Personnel
- (3) Hazardous Materials Technician (HMT). Personnel who assume a more aggressive role than first responders at the operations level in that they approach the point of spill/release in order to plug, patch or otherwise stop the spill/release of oil or a hazardous substance must be trained to the HMT level per Reference (e). This level of training is not intended for most Coast Guard personnel with the exception of personnel who work at industrial facilities with oil/chemical storage that have a Spill Prevention, Control and Countermeasure Plan (SPCC) and/or a Facility Response Plan (e.g., shipyard, BSU). These personnel need to have Hazard Communication and Personal Protective Equipment training to be able to respond to incidental releases of substances at their facilities. The SPCC/Response Plan must specify what actions personnel can take in their response.
4. Training Completion. Required training must be recorded as per Reference (d).
5. Reference. Further information is available by contacting HSWL SC (se).

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 are skilled in human performance technology and provide support for establishing systematic

and systemic performance support systems for Program Managers and Rating Force Managers.

2. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) is designated as the SEH Program Manager (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 which have potential funding/resource implications before forwarding to FC-T.
3. Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety, Work-Life Service Center (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 (SMSs), 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 Safety Officers 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 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 Safety Officers, Assistant Safety Officers, 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/Manager. Assistant Safety Officer/Manager must:
 - a. Develop and implement a training plan outlining SEH training requirements for all personnel.
 - b. Conduct JHA to catalog workplace hazards and determine training requirements.
 - c. Provide required SEH training as an integral part of the command SEH program.
 - d. Document and track attendance for required training courses using the Training Management Tool (TMT).
 - e. 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) Employee reporting procedures for hazardous operations/conditions;
 - (3) Awareness of hazards common to the individual's work site, trade, occupation or tasks; and
 - (4) Coast Guard SEH policy and guiding principles.

7. Supervisors. Supervisors must arrange training on the hazards and operations of their 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) Title 29 CFR §1910.132-138, Subpart I, "Personal Protective Equipment"
- (b) Weapons of Mass Destruction and Catastrophic Hazardous Material Releases, COMDTINST 3400.3 (series) (FOUO)
- (c) Chemical, Biological, Radiological And Nuclear (CBRN) Policy for the Coast Guard Expeditionary Forces, COMDTINST 3400.4 (series) (FOUO)
- (d) Deployable Specialized Forces Tactical Operations and Operator Policy, COMDTINST 16600.7 (series) (FOUO)
- (e) Rescue and Survival Systems Manual, COMDTINST M10470.10 (series)
- (f) 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. 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). PPE policy for standard mission activities is based on standards and policies contained in Reference (a). PPE policy for DSF operations is contained in Reference (b) through (d). PPE policies for Chemical, Biological, Radiological And Nuclear (CBRN) operations is contained in Reference (b) and (c). Guidance for rescue and survival system PPE is found in Reference (d).

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. Once it has been determined that PPE is required on the job to control the hazard, its use is mandatory. PPE must be provided, used, and maintained in a sanitary and reliable condition per Reference (a).

3. PPE Selection. PPE must be selected to ensure proper fit and protection from documented hazards; employees must be aware of selection criteria.
4. 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.
5. 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.
6. Training Completion. Training must be recorded using the Training Management Tool (TMT) per Reference (f) 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.
7. 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 DSF and CBRN mission activities).
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 DSF and CBRN mission activities.

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 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, establish a PPE program.
 - d. Select, procure 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.

5. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (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 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 due to abatement of the original hazard.
 - c. If indicated by workplace hazard assessment, establish a PPE program.
 - d. Select, procure 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/Manager. Assistant Safety Officer/Manager 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 advise 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. Consult HSWL SC (se) for PPE program guidance.
7. Supervisors. Failure to comply implement PPE program requirements might be cause for disciplinary action. Supervisors must:
- a. Anticipate and plan for routine and emergency use of PPE.
 - b. Inform the Safety Manager/Assistant Safety Officer 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. Failure to comply with the PPE program requirements are cause for disciplinary action. 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 or Safety Manager/Assistant Safety Officer 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, Assistant Safety Officer, 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) ACGIH 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 Program 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 temperature, humidity or air velocity 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. Further information is available by contacting HSWL SC (se).

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 a general temperature and relative humidity monitor to determine the National Oceanic and Atmospheric Administration (NOAA) Heat Index, 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 (HS) personnel 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) 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. 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 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. Provide technical assistance and consultation to units on cold injury prevention methods; and
 - d. Evaluate units, through Risk Assessment Survey visits, on their heat and cold injury prevention programs, per this Chapter.
3. Sector Commanders. Sector Commanders must ensure personnel are trained and comply with this Chapter initially and annually thereafter.
4. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:
 - a. If in a location where heat or cold conditions are prevalent, initiate a thermal stress program per Reference (d) to include training and Standard Operating Procedures (SOP) to deal with extreme environmental conditions.
 - 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. Perform necessary maintenance or other engineering controls to reduce thermal stress in manned spaces.

5. 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.
6. 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 Practices for Respiratory Protection (NOTAL)
- (c) Title 29 CFR §1910.134, “Respiratory Protection, Occupational Safety and Health Administration (OSHA)”
- (d) Coast Guard Medical Manual, COMDTINST M6000.1(series)
- (e) Compressed Gas Association, Inc. Commodity Specification for Air, Pamphlet G-7.1-2011
- (f) Weapons of Mass Destruction and Catastrophic Hazardous Material Releases, COMDTINST 3400.3 (series) (FOUO)
- (g) Chemical, Biological, Radiological And Nuclear (CBRN) Policy for the Coast Guard Expeditionary Forces, COMDTINST 3400.4 (series) (FOUO)
- (h) Special Missions Chemical, Biological, Radiological, Nuclear, High-Yield Explosive (CBRNE) Operations Manual, COMDTINST M16601.12 (series) (FOUO)
- (i) 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 exposure to potentially hazardous materials (HAZMAT) 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 HSWL SC (se) Safety and Environmental Health Officer. Typical operations that might require respiratory protection include: Firefighting; Marine Inspections; Transfer Monitoring; Response Activities; Coating Applications; and Hazardous Material Activities.
2. Application.
 - a. This Chapter establishes respiratory protection policy and except as noted in Paragraph A.2.b (1-8) below, applies to all Coast Guard active duty and civilian personnel and visitors who enter an area where respiratory protective equipment, including (c) Chemical, Biological, Radiological And Nuclear (CBRN) field protective masks (e.g. MCU-2A/P, M40/A1, 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 to wear the respirator.
 - (3) Underwater breathing systems.
 - (4) Aircraft oxygen systems.
 - (5) Oxygen Breathing Apparatus (OBA) used for firefighting onboard vessels, Reference (a).
 - (6) 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.

- (7) Surgical masks worn by surgical room personnel, dentists, and dental technicians are not considered respirators and are exempted from this Chapter.
 - (8) 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 References (f) through (h). Additional guidance is provided in Reference (i), available on the HSWL SC (se) website.

B. Program Requirements.

- 1. General Policies.
 - a. Any workplace where respirators are necessary to protect the health of the employee or when ever respirators are required by the unit, the unit must establish and implement a written RPP and designate a Respiratory Program Manager (RPM) to manage the program.
 - b. Units requiring a RPP must establish and maintain a program per this Chapter and Reference (c).

- 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 facepiece and face or that interferes with valve function or any condition that interferes with the face-to-facepiece seal or valve function.
- e. Units must fit test, issue, and train personnel to wear respirators and ensure personnel are medically qualified. Fit testing must demonstrate that tight-fitting facepiece respirators properly seal.
- f. Units must meet the following RPP requirements to permit the issuance of respiratory protection:
 - (1) Respiratory protection is required when a hazard assessment demonstrates that personnel exposures potentially exceed 1/2 the Permissible Exposure Limit (PEL). Reasonable effort must be made by units to maintain exposure below 1/2 of the more stringent Occupational Exposure Limit (OEL), as described in Chapter 26 of this Manual. Refer to References (f) through (h) 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 requiring the use of respiratory protection may create a hazard without warning (e.g., emergency purposes such as HAZMAT spill responses).
 - (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 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) through (h) for CBRN respiratory protection thresholds.

(1) Filtering Facepieces (dust masks):

- (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) National Institute for Occupational Safety and Health (NIOSH) approved filtering facepieces (dust masks) can be issued without medical screening and fit testing.

(2) Elastomeric Facepiece:

- (a) All elements of the respiratory protection program must be met.
- (b) NIOSH approved respirators must be selected appropriately for the perceived hazard.

- h. Self-Contained Breathing Apparatus (SCBA) Fit Test and Medical Evaluation. Before wearing or using SCBA, all personnel must complete required fit testing and medical evaluation.
- 2. 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. Unit 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. Chemical cartridge/canister air-purifying respirators can be used (up to their maximum use concentration) for protection against substances without good warning properties, including isocyanates, if a cartridge change-out schedule is developed and implemented.

3. Medical Evaluations.

- a. Unit 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.e.

4. Respirator Fit Testing.

- a. Respiratory Protection Manager (RPM). The RPM must meet the training requirements as set forth by HSWL SC (se). Unit RPM or trained designated personnel must fit test each individual required to use a respirator with a tight-fitting facepiece, at the time of initial fitting, annually and when there is change such as significant weight loss or gain or change in facial structure such as wearing dentures.
- b. Frequency. All personnel enrolled in the respiratory protection program must be fit tested annually or whenever there is a change in facial feature of the wearer or a change in the type of respirators use, whichever is sooner.
- 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 References (f) through (h), and meet or exceed standards mandated by Reference (c) or the mask manufacturer. Further information is available by contacting HSWL SC (se) or Commandant (CG-721).
- 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.

5. Inspection and Cleaning. Only personnel who have received training through the RPM must perform the cleaning, inspection, and maintenance of respiratory protection equipment per Reference (c).

6. Training.

a. Respirator Wearers.

- (1) Unit 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) Unit must train supervisors, persons issuing respirators, and emergency rescue teams per Reference (b).
 - (3) Unit must document that training occurs in a manner that is understandable to the respirator wearer and that respirator wearers can demonstrate knowledge of the aspects of respiratory protection described in Reference (c).
 - b. RPM. RPM candidates 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.
- 7. Breathing Air Quality Requirements.
 - a. Air Quality. Minimum breathing air quality standards are described below.
 - (1) Except as specified in Paragraph 7.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).
 - 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.
- 8. 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 develop and periodically update policy concerning CBRN respiratory protection.
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, can 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 fit testing and RPP support to units that have an Assistant Safety Officer.
 - 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).
 - b. Designate a qualified RPM in writing.
 - 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.
 - g. Establish procedures to ensure that all sources of breathing air meet the requirements cited in Paragraph B.7.
- 5. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) 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).
 - b. Designate a qualified RPM in writing.
 - 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.7.
- 6. Respiratory Protection Manager (RPM). The Respiratory Protection Manager (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 Reference (c) and Paragraph B.6.
 - 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. Coordinate with unit safety personnel to complete a self evaluation of the unit RPP at least annually.
 - f. Inspect respiratory protection equipment for damage. Ensure respirators damaged beyond repair are pulled from service and immediately replaced and that new type, make, or model respirators are fit tested to ensure a proper seal.
 - g. Ensure respirator cartridges and canisters are changed according to the established change out schedule.

7. Supervisors. Supervisors must:

- a. Inform the Safety Manager/Assistant Safety Officer 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/Assistant Safety Officer 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. Participate in training sessions provided by the Safety Manager, Assistant Safety Officer, or HSWL SC (se).
- d. Report any malfunction of respiratory protection to the supervisor and ensure that equipment is maintained in good working order.
- e. Guard against damage to or loss of respiratory protection equipment.
- f. Change respirator cartridges and canisters according to established change out schedule.

CHAPTER 10 HEARING CONSERVATION PROGRAM

References:

- (a) American Conference of Industrial Hygienists, "Documentation of the Threshold Limit Values (TLVs) and Biological Exposure Indices (BEI)," current edition
- (b) Title 29 CFR §1910.95, "Occupational Noise Exposure"
- (c) Coast Guard Medical Manual, COMDTINST M6000.1(series)
- (d) 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. Noise control and hearing conservation measures contribute to operational readiness by preserving and optimizing auditory fitness for duty in Coast Guard personnel.
2. Application. Use this Chapter to control audio hazards associated with Coast Guard units. Program requirements are based on standards, policies and guidance contained in References (a) through (d).

B. Program Requirements.

1. Unit Actions. Unit must prepare a written plan for the implementation of a comprehensive HCP. Such plans must address acquisition during the design process, 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 to:
 - a. Continuous and intermittent noise (20 to 16,000 hertz (Hz)) that has an 8-hour Time-Weighted Average (TWA) noise level of 85 decibels A-weighted (dB(A)) or greater.
 - b. Impulse/impact noise Sound Pressure Levels (SPLs) of 140 decibels peak dB(P) or greater.
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. Program Elements. The program must include the following:

- a. Noise Measurements and Exposure Assessments. In order to effectively control noise, it is necessary to accurately measure noise according to standard procedures and properly evaluate the measurements against accepted criteria.
 - (1) Assess noise in all potentially hazardous noise work areas initially and reassess when there is a change/modification in procedures and or equipment.
 - (2) Noise measurements must be conducted by qualified personnel.
- b. 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.
- c. 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 (i.e., training, monitoring, hearing protection, etc.) must receive hearing conservation training. Training of these individuals is vital to the overall success of a HCP.
 - (3) Noise measurement and analyses and surveys of work environments to identify potentially hazardous noise levels and personnel at risk.
- c. Personal Protective Equipment (PPE). 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.

- d. 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 of a specific worker.
- e. Record Keeping.
 - (1) All HCP audiometric testing data must be maintained.
 - (2) Results of hearing tests performed for HCP and exposure documentation must be a permanent part of an individual's electronic medical record.
 - (3) Noise exposure data must be kept for the duration of employment plus 30 years.
- f. 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 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 derated 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), must be labeled and must require the use of single hearing protection that attenuates worker noise exposure below 140 dB(P). Areas or equipment where the sound pressure levels are 165 dB(P) or greater must be labeled and must require the use of double hearing protection that attenuates worker noise exposure below 140 dB(P)

- g. 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) must oversee the development and periodic update of policy concerning hearing conservation.
2. Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety, Work-Life Service Center (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.
 - f. Assisting units in selecting engineering and administrative controls and hearing protective devices.

3. 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.
4. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:
 - a. Develop and implement 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.
 - 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 at all times.
 - 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) U. S. Department of Labor (DOL), Occupational Safety and Health Administration (OSHA), Hazard Communication Standard (Title 29 CFR §1910.1200)
- (b) Title 29 CFR §1910.1450, DOL, OSHA, “Occupational Exposure to Hazardous Chemicals in Laboratories Standard”
- (c) Federal Acquisition Regulation, Part 52.223-3, “Hazardous Material Identification and Material Safety Data,” Current Edition
- (d) Hazard Communication (HAZCOM) Program Tactics, Techniques, and Procedures (TTP), CGTTP 4-11.5

A. Discussion.

- 1. Background. The Coast Guard’s Hazard Communication (HAZCOM) Program was developed to ensure that all chemical substances that are brought into the workplace are assessed, and if required, classified for their physical and health hazards. Information concerning these classified 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 conditions of use or in an emergency.
- 2. Application. Only those chemicals that have been determined to be 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 appropriate Safety and Health Manager or Supervisor if there is an uncertainty as to a chemical's inclusion.
- 3. References. Program requirements are based on standards and policies contained in References (a) through (c). Additional guidance is provided in Reference (d), available on the HSWL SC (se) website.

B. Program Requirements. The requirements for a hazard communication program are:

- 1. Written Hazard Communication Plan.
 - a. All Coast Guard workplaces using or producing hazardous materials (HAZMAT) must have a written HAZCOM plan. 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 which have a high toxicity level with ones that are less toxic or non-hazardous.

- d. The HAZCOM plan ensures 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 government personnel is properly coordinated.
 - (2) Provide copies of Safety Data Sheets (SDSs) and labels of the HAZMAT to the contracting officers, who must forward these documents to the proper environmental, safety, and health officials 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 also 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 to be 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 must have a SDS in the workplace for each hazardous chemical which 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.
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. Training programs must meet the requirements per Reference (a).

- b. Records of individual training must be maintained.

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.
2. 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 HAZCOM program.
 - b. Provide units with a written evaluation on the effectiveness of the program based on Industrial Hygiene (IH) reviews.
3. Sector Commanders. Sector Commanders must:
 - a. Maintain a list of all chemical hazards at subordinate units.
 - b. Implement a comprehensive HAZCOM program.
 - c. Ensure that any member designated to administer the HAZCOM Program has completed the Assistant Safety Manager/Safety Officer Course (formally known as the Unit Safety Coordinators Course). The HAZCOM Program manager can be the HAZMAT Officer or any other member that successfully completes the required training
 - d. Establish central control point for issuing and distributing chemicals.
 - e. Develop Standard Operating Procedures (SOP) governing the selection, issue, and use of chemicals. SOPs must include emergency and rescue guidance, as necessary.
 - f. Ensure all chemical users and their supervisors are trained per Reference (a).
 - g. Self evaluate the program at least annually.
 - h. Consult with the HSWL SC (se) Regional Safety and Environmental Health Office (SEHO) for assistance.
4. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:
 - a. Establish a comprehensive HAZMAT program and appoint a qualified HAZMAT officer.
 - b. Ensure HAZMAT officer successfully completes required training.
 - c. Establish central control point for issuing and distributing chemicals.

- d. Maintain a record of all chemical hazards ordered and issued at unit.
 - e. Develop SOP 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.
 - f. Ensure all chemical users and their supervisors are trained per Reference (a).
 - g. Self evaluate the program at least annually.
 - h. Consult with the HSWL SC (se) Regional Safety and Environmental Health Office (SEHO) for assistance.
5. Supervisors. Supervisors must:
- a. Ensure all employees using chemical are trained per Reference (a).
 - b. Evaluate employee knowledge of the HAZCOM program and of common chemicals used in the workspace at least annually.
6. Employees. Employees must:
- a. Be aware of all chemical agents 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 AWARENESS PROGRAM

References:

- (a) Title 40 CFR §61, Subpart M, “Environmental Protection Agency (EPA) Asbestos Fiber Emission Regulations”
- (b) 42 U.S.C. §7401 et seq., of Nov 25 90, (PL 101-549), Clean Air Act
- (c) 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. Use of ACM has virtually been eliminated in new construction. 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 must be used for control of asbestos hazards associated with all Coast Guard units including Coast Guard controlled housing and Child Development Centers (CDC).
- 3. References. Program requirements are based on standards and policies contained with References (a) and (b). Additional guidance is provided in Reference (c), 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. Commanding Officer (CO), Coast Guard Base Ketchikan and CO, Coast Guard Yard are authorized by HSWL SC to allow certified personnel to remove, repair, and dispose of asbestos per Federal and State regulations. The cognizant HSWL SC (se) Safety and Environmental Health Officer (SEHO) must conduct administrative and on-site review of the asbestos operations at the Coast Guard Yard and Base Ketchikan. Afloat units are prohibited from removing, repairing, and disposing of asbestos, except during underway casualty repair work which has the approval of the vessel's CO or personnel delegated this authority by the CO such as Damage Control Central.

3. Exposure Limitations. Unprotected personnel must not be exposed to airborne asbestos fiber concentrations greater than the Permissible Exposure Limit (PEL) of 0.1 fibers per cubic centimeter (0.1 f/cc) calculated as an 8-hour Time-Weighted Average (TWA) exposures.
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 Management Plan. Units with asbestos must implement and maintain a asbestos management program consisting of an unit-specific asbestos management plan. The plan provides long-term solutions that eliminate personnel exposure to airborne asbestos fibers in Coast Guard workspaces through cost effective management of ACM. The plan includes several key elements including ACM inventory, inspection and condition assessment records. Reference (c) includes an Asbestos Management Plan and ACM Inventory, Inspection and Condition Assessment form in addition to guidance on implementation of a comprehensive asbestos management program.
8. 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.
 - c. Duties and training must be performed per References (a) and (b) when individuals that work with ACM are identified by units.
9. Contract Work. Contract work to be performed by a private contractor in Coast Guard shore facilities and ships must comply with appropriate Occupational Safety and Health Administration (OSHA) and EPA regulations.

10. Asbestos Medical Surveillance Program (AMSP). The AMSP is designed to identify signs and symptoms related to medical conditions as early as possible through periodic medical evaluations. The program also provides for identification of medical conditions that might increase the employee's risk of impairment from asbestos exposure and for counseling of workers on medical conditions related to asbestos exposure. Units must coordinate with assigned medical personnel and regional SEHO to ensure compliance with asbestos exposure monitoring protocols described under the overall Occupational Medical Surveillance and Evaluation Program (OMSEP) in Reference (c).
11. Environmental Protection.
 - a. 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).
 - b. Disposal. Units must properly contain and dispose asbestos materials in an approved landfill.
 - c. Unit Action. Unit must ensure that written notification of disposal activities is provided to the EPA and/or cognizant State or local agencies.
13. Labeling Requirements.
 - a. General. Labels are attached to all products containing asbestos greater than 1.0% by weight as well as to all containers or bags containing asbestos waste materials. Where feasible, all asbestos products installed and in use are labeled.
 - 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 are kept for 30 years.
 - b. Medical Surveillance. Medical surveillance records of each employee are kept for the duration of the employee's employment plus 30 years.
 - c. Employee Training. Records of employee training are 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, 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 an asbestos awareness program, including the following:
 - a. 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 to include but not limited to:
 - (1) Sampling and identification of suspected ACMs.
 - (2) Development and implementation of asbestos management plans.
 - (3) Selection of appropriate Personal Protective Equipment (PPE).
 - (4) Establish and review unit safe work practices.
 - c. Maintain the AMSP control database.
 - d. Establish training requirements for unit personnel authorized to conduct asbestos maintenance.
3. Sector Commanders. Sector Commanders must:
 - a. Implement an asbestos management program for applicable Sector units.
 - b. Maintain a current roster of personnel exposed or potentially exposed to asbestos and report to District.
 - c. Ensure APM successfully completes required training per References (a) and (b).
 - d. Maintain a current roster of personnel enrolled in asbestos program.
 - e. Ensure all asbestos workers and their supervisors are trained.
 - f. Self evaluate the program at least annually. HSWL SC (se) IH periodic reviews of the asbestos management program do not constitute a self evaluation.
 - g. Notify and request CG HSWL SC (se) to conduct identification testing when a potential asbestos hazard is suspected.

- h. Train all hands who work in areas where ACMs are present to recognize and report damaged ACM.
 - i. Apply control measures, monitoring procedures, and Operations & Maintenance plans to processes using asbestos or ACMs.
 - j. Comply with the National Emission Standard for Asbestos.
 - k. Appoint an APM in writing, to implement the requirements of this Chapter.
 - l. Budget resources in order to meet these asbestos control requirements.
 - m. Maintain a current copy of applicable State and local asbestos requirements.
 - n. Prohibit the removal, repair, or disposal of ACM by Coast Guard military and civilian personnel unless authorized by CG HSWL SC (se).
 - o. Implement and maintain an asbestos management plan, if ACM is identified. Ensure all required resources and personnel are assigned to accomplish this plan.
 - p. 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.
4. 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. Ensure APM successfully completes required training per References (a) and (b).
 - c. Maintain a current roster of personnel enrolled in asbestos program.
 - d. Ensure all asbestos workers and their supervisors are trained.
 - e. Self evaluate the program at least annually. HSWL SC (se) IH periodic reviews of the asbestos management program do not constitute a self evaluation.
 - f. Notify and request CG HSWL SC (se) to conduct identification testing when a potential asbestos hazard is suspected.
 - g. Train all hands who work in areas where ACMs are present to recognize and report damaged ACM.
 - h. Apply control measures, monitoring procedures, and Operations & Maintenance plans to processes using asbestos or ACMs.
 - i. Comply with the National Emission Standard for Asbestos.

- j. Appoint an APM in writing, to implement the requirements of this Chapter.
 - k. Budget resources in order to meet these asbestos control requirements.
 - l. Maintain a current copy of applicable State and local asbestos requirements.
 - q. Prohibit the removal, repair, or disposal of ACM by Coast Guard military and civilian personnel unless authorized by CG HSWL SC (se).
 - r. Implement and maintain an asbestos management plan, if ACM is identified. Ensure all required resources and personnel are assigned to accomplish this plan.
 - s. 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.
 - t. Have appropriately trained small scale, emergency asbestos abatement personnel on board while underway, for afloat units.
 - u. Coordinate with CG HSWL SC (se) to develop and implement an asbestos management plan if ACM is identified on the vessel.
5. Base Commanders and Commanding Officers, Shore Infrastructure Logistics Center (SILC). Base Commanders and Commanding Officers and SILC must:
- a. Verify assigned units and facilities comply with References (a) through (c).
 - b. Provide asbestos management program technical oversight per Reference (c).
6. Supervisors. Supervisors must:
- a. Visually inspect all workspaces known to contain ACM for damaged and/or friable material; report damaged ACM or other materials thought to potentially contain asbestos 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.
7. Employees. Employees must:
- a. Visually inspect all workspaces known to contain ACM for damaged and/or friable material; report damaged ACM or other materials thought to potentially contain asbestos immediately.
 - b. Carry out duties in compliance with this Chapter and References (a) through (c).

CHAPTER 13 CONFINED SPACE ENTRY PROGRAM

References:

- (a) Title 29 CFR §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) Title 29 CFR §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), Chapter 077, Section B, Gas Free Engineering/Confined Space Entry
- (f) NAVAIR 01-1A-35, Maintenance Instructions, Aircraft fuel Cells and Tanks
- (g) Maritime Law Enforcement Manual, COMDTINST M16247.1 (Series)
- (h) Title 29 CFR §1926.956, “Underground Lines”

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. CSE is one of the most dangerous work evolutions that 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 that confined spaces are identified, labeled, and managed and that 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 work space might also include electrical, mechanical, engulfment or entrapment hazards that must be locked out (see Chapter 14). 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.

B. Program Requirements.

1. Active Duty and Civilian Coast Guard Personnel. Active duty and civilian Coast Guard personnel must:
 - a. Never enter a confined space without having first received documented training on the hazards associated with confined spaces.

- b. Never 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 had extensive training on the hazards present in confined spaces and the methods of assessing and characterizing those hazards to determine safe entry requirements.
- 2. Shipyard, Ship Building and Shipbreaking. The following definitions and testing standards apply for these environments, in line with Reference (a) and informed further by Reference (b):
 - a. Confined Space.
 - (1) Confined spaces are spaces of ANY size or configuration which have limited openings for entry and exit, unfavorable natural ventilation and 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, and access ways.
 - (3) All confined spaces require atmospheric testing and certification by a Certified Marine Chemist (CMC) or Shipyard Competent Person (SCP) prior to Coast Guard personnel entry. 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. Enclosed Space.
 - (1) Enclosed spaces encompass all spaces not open to the weather decks or to the atmosphere which do not meet the definition of a confined space. Enclosed spaces are generally designed for continuous worker occupancy.
 - (2) Enclosed spaces might include work spaces, such as engine rooms, berthing spaces, recreation spaces, common areas, etc.
 - (3) All enclosed spaces must be assessed by the Marine Inspector (MI) or SCP prior to authorizing entry.
 - c. Space Determination for Vessels Under Construction.
 - (1) During shipbuilding operations, the need for testing by a CMC is based on the progress of the vessel construction. Until there is a potential for a hazard, such as oxygen deficiency, or after the introduction of flammable materials, testing is not required.

- (2) Spaces on new construction must be considered enclosed spaces until they meet the definition of confined space in Paragraph B.2.a.(1) or unless a known hazardous condition exists necessitating atmospheric testing and certification by a CMC prior to Coast Guard personnel entry.
 - (3) 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 for vessels in service in Paragraph B.2.a.(2).
 - (4) 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.
 - (5) The 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>.
3. Shore Facilities (Including Air Stations). The following definitions apply for these environments per Reference (c):
- a. Confined Space.
 - (1) Spaces that are large enough and so configured that an employee can bodily enter and perform assigned work; and
 - (2) Spaces that have limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that might have limited means of entry.); and
 - (3) Spaces that are not designed for continuous employee occupancy.
 - b. Permit-Required Confined Space.
 - (1) A confined space that contains or has a potential to contain a hazardous atmosphere;
 - (2) A confined space that contains a material that has the potential for engulfing an entrant;
 - (3) A confined space that 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) A confined space that contains any other recognized serious safety or health hazard.

- (5) All permit-required confined spaces require atmospheric testing and certification by an Entry Supervisor (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 Entry Authority (EA).
- c. 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.
- 4. Basic Requirements. Requirements contained in References (a) and (c) constitute overall Coast Guard CSE policy. Minimum requirements for a confined space program are:
 - a. Implement the measures necessary to prevent unauthorized entry of permit-required confined spaces.
 - b. Identify and evaluate the hazards of permit-required spaces before entry.
 - c. Develop and implement the means, procedures and practices necessary for safe permit-required CSE operations.
 - d. Thoroughly evaluate permit-required confined space (permit space) conditions including testing for atmospheric hazards.
 - e. Designate people who have active roles (e.g., attendants, entry supervisors, competent persons 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.
 - f. Develop and implement procedures for summoning rescue and emergency services to conduct confined space rescues.
 - g. Develop and implement a system for preparation, issuance, use, and cancellation of entry permits.
 - h. 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.
 - i. Review entry operations when there is reason to believe measures taken under the CSE Program are not adequate.
 - j. Review the CSE Program using canceled permits within one year after each entry and revise the program as necessary.

5. Commercial Vessels.

- a. Assessment of Confined Spaces. Coast Guard personnel only enter confined spaces aboard commercial vessels after the space has been certified as “Atmosphere Safe for Workers” by a CMC. However, 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 which SCPs are authorized to certify.
- b. Assessment of Enclosed Spaces. MI assessments consist of, but are not limited to, visual inspection of the space(s) to be entered, 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) All Coast Guard MIs must be able to differentiate confined and enclosed spaces, and have the tools, knowledge and experience to ensure appropriate measures are taken prior to Coast Guard personnel entry.
 - (2) All requisite training and qualifications outlined in Paragraph B.11 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.
 - (3) When assessing a space for entry, adjacent spaces must be considered and evaluated. Toxic and flammable gases can spread through openings from adjacent spaces.
 - (4) 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).
 - (5) 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.
6. 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 that 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.” 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,” except for those spaces requiring a CMC Certificate.

7. 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 Gas Free Engineer (GFE). Commanding Officers and Officers-in-Charge of Coast Guard cutters must certify and recertify, on an annual basis in writing, their unit’s GFE.
8. 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. Commanding Officers of Coast Guard air stations must certify and recertify on an annual basis, in writing, their unit’s EA.
9. Maritime Law Enforcement Inspections. Per Reference (g) boarding personnel must not enter any confined spaces that are suspected of hazardous material contamination or oxygen depletion until a Designated Competent Person (CMC, GFE, or SCP) has tested the space and certified it safe to enter. Sector Commanders, Commanding Officers and Officers-in-Charge of Coast Guard cutters must ensure that a Designated Competent Person (DCP) is available to accompany the boarding team.
10. 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.
 - a. Certified Marine Chemist (CMC). An individual who possesses a current and valid Marine Chemist Certificate issued by the National Fire Protection Association (NFPA).
 - b. 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.
 - c. Entry Authority (EA). The EA is specifically trained and authorized to test aircraft confined spaces and certify the permit for entry. The EA has primary responsibility for assessing aircraft fuel cells for safe levels of oxygen, flammable gases and vapors and toxic air contaminants in line with Reference (c). Additionally, a GFE or a CMC can perform duties as an Entry Authority.

- d. Entry Supervisor (ES). The ES is 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).
- e. Marine Inspector (MI). MIs are limited to authorizing entry only into 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 that a space is safe, he or she must report their concerns to their OCMI and not enter the space until all safety requirements are met.
- f. Gas Free Engineer (GFE). An individual qualified per Reference (d), is certified by the Commanding Officer manages the administrative and technical aspects of the gas free engineering program. GFE's 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. The terms Gas Free Engineer and Gas Free Engineering Petty Officer are used interchangeably.

11. Training.

- a. All Coast Guard Personnel. All Coast Guard personnel must have an awareness level understanding of confined spaces in order to recognize a confine space and understand the hazards associated with confined spaces.
- 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. For any personnel designated to authorize entry into confined spaces, units must prescribe the following training/qualification requirements:
 - (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;
 - (4) Hands-on training and use of the sampling equipment to evaluate and test spaces of the type for which the individual is authorized to certify safe for entry; and,

- (5) Periodic refresher training at intervals to maintain the person's competency and familiarity with the sampling equipment.
- d. Training Requirements for SCP Designation. SCP candidates must complete all of the requirements in Section B.11.c above. Additionally, SCP designation also requires completion of the Coast Guard's Shipyard Competent Person 'C' school course or a comparable SCP training course taught by a CMC or NFPA instructor or other approved Coast Guard instructor. 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 a nine day U. S. Navy Gas Free Engineering Officer curriculum incorporated into the seven week Damage Control Assistant Course, TQC Course #240140, Damage Control Assistant SE or a four day Gas Free Engineering Petty Officer course for Machinists Technician (MK) or Damage Control (DC) personnel provided by the Navy, TQC Course #241665, Gas Free Engineer.
- f. Coast Guard Training Resources. Both the Shipyard Competent Person and Shore Facility CSE courses are available on the Training Quota Management Center (TQC) web site. These courses satisfy the requirements listed in Section B.11.c (3) and (4) above.

12. 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 confined space safety programs.
- 2. 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 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. Upon unit request, conduct industry shipyard competent person evaluations.
- 3. 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.

4. Sector Commanders. Sector Commanders must:
 - a. Develop and implement the sector CSE program. Consult the HSWL SC (se) Regional Safety and Environmental Health Office (SEHO) for assistance.
 - b. Appoint in writing, a named individual 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 which MI are authorized to certify.
 - 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.
5. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:
 - a. Develop and implement the unit CSE program. Sector units must consult with their SSM for assistance. Consult with the HSWL SC (se) Regional Safety and Environmental Health Office (SEHO) for additional assistance or to request a hazard assessment.
 - b. Appoint in writing, a named individual 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.
6. Safety Managers/Ground Safety Officers/Assistant Safety Officers. Safety Managers/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.
7. Supervisors. Supervisors must consult the advice of COs/OICs, Safety and Environmental Health Officers (SEHOs), or assistant safety officers if there are concerns or questions regarding confined space safety.
8. Employees. Employees must:

- a. Never enter a confined space without having first received documented training on the hazards associated with confined spaces.
 - b. Never authorize entry (their own or anyone else's) into a confined space without being designated that authority in writing by their Commanding Officer.
9. Contractors. Contracts that might involve confined space, construction or repair work at Coast Guard facilities must adhere to, the following requirements:
- a. Contractors working on Coast Guard facilities must comply with Reference (c) for shore based confined space entries. Contractors doing power transmission and distribution work at facilities must comply with Reference (h). Telecommunications contractors must comply with Title 29 CFR §1910.268, Telecommunications. These requirements must be included in the contract.
 - b. The contractor must provide CSE personnel that meet all the requirements of the relevant OSHA regulations cited in this Chapter, prior to entry into any confined space on all Coast Guard facilities.
 - c. Coast Guard CSE services; such as atmospheric testing, must not be provided for contractor personnel. Contractor CSE supervisors, attendants, and entrants must meet the requirements set forth in Reference (c), prior to entry into any confined spaces on all Coast Guard facilities.
 - d. Contract CSE services must not be provided for Coast Guard military or civilian personnel, unless the contractor is a National Fire Protection Association (NFPA) CMC or a pre-approved shipyard competent person
 - e. Contracts must clearly require the contractor to provide or arrange for confined space rescue of contract personnel.

- f. Coast Guard regulations make no provision for government CSE personnel to perform CSE for contractor operations. Performance of such functions may involve assumption of liability by the Coast Guard following a mishap. Therefore, 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.
- g. 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 Gas Free Engineer, Entry Supervisor or Shipyard Competent Person per the requirements of this Chapter and HSWL SC (se) procedures. However, such testing, certification, and subsequent notification must in no way 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 so informed.
- h. 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 gas detection or gas monitoring equipment for contractor use.

CHAPTER 14 ISOLATION OF ENERGY SOURCES (LOCKOUT/TAGOUT)

References:

- (a) Title 29 CFR §1910.147, “Control of Hazardous Energy (Lockout/Tag-out)”
- (b) Title 29 CFR §1915 Subpart F, Section 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)

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.
2. Application. The requirements of this Chapter apply to all Coast Guard employees and contractor personnel at all Coast Guard facilities.
 - a. Lockout/Tag-out. Lockout/Tag-out procedures described in Reference (a), apply to all ashore 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/Tags-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.
 - c. Application Guidance: Additional Lockout/Tag-out and Lockout/Tags-Plus application and implementation information and guidance are 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.
- 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 not equipped with integrated locking capabilities. To mitigate risks linked to missing lockout capabilities, Lockout/Tags-Plus procedures employ at least one additional safety measure to protect personnel and equipment and personnel. 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).

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 three years 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). Chief, Human Systems Integration (HSI) Division (CG-1B3) 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, Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety, 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 the 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 must:
 - a. Develop and implement the 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 Safety and Environmental Health Office (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 Managers/Ground Safety Officers/Assistant Safety Officers. Safety Managers/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 which 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 which 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) which 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.
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. When a cutter or boat is in maintenance availability at a shipyard, the contractor must adhere to the policy and procedures of Reference (b). 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. When a cutter or boat is in a homeport maintenance availability where work is being performed by non-military personnel or contractors, the contractor must manage the lockout/tags-plus procedures per Reference (b).
 - c. Contractors must 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) Title 29 CFR §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 M6220.4 (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 units and is used to identify proper controls against BBP hazards. 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.

B. Program Requirements.

- 1. 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).
- 2. Administrative Controls.
 - a. Personnel exposed to BBP must be offered the hepatitis B vaccine series.
 - b. Units must develop a written ECP. Further information is available by contacting HSWL SC (se).
- 3. 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).
- 4. 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 weapons threats.

5. Risk. 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 of disease transmission compared to persons frequently exposed to large quantities.
6. At Risk Personnel. Personnel who, as part of their normal work activities, are at increased risk of disease due to BBP exposure are:
 - a. Health Services Personnel;
 - b. Emergency Medical Technicians (EMTs);
 - c. Security Personnel; and
 - d. Firefighters;
 - e. Others to be considered: rescue swimmers, day care workers, gym watch personnel etc.
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. 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 unit's 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.
3. 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. AFC-08 funds are used to purchase the Hepatitis B vaccination for appropriated funded civilian employees.
 - 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).
4. 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.
 - 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 Training Management Tool (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.
5. 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.
6. 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) Public Law 89-564, The National Traffic and Highway and Motor Vehicle Safety Act and The Highway Safety Act of 1966 (23 U.S.C. §401)
- (b) Risk Management, COMDTINST 3500.3 (series)

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 hand 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. Defensive Driving 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 Government motor vehicle, must complete a Driver Improvement Course. The course is a condition of continued authorized use of a Government motor vehicle onboard a Coast Guard facility or while on authorized travel.
9. Motorcycles.
 - a. Requirements. Operators of privately owned 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 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. Reimbursement for refresher training is limited to courses outlined in 9.b of this Chapter. 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.
- 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).
- e. Required PPE for Motorcycle Operators and Passengers. All motorcycle operators and passengers must wear 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.
- g. Three-Wheel Motorcycles. Operators of motorcycles with attached sidecars and three-wheeled motorcycles are excluded from the motorcycle training requirements of this Manual.

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.

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 an approved snowmobile safety course.13. Low Speed Vehicles. Motorized equipment, such as golf carts, used as alternative transportation and designed to operate on roads and in neighborhoods must not exceed 25 MPH. These vehicles are required to have non-fragmenting safety glass windshields, seatbelts for the driver and each passenger, headlights, taillights, and turn signals. Personnel must have a valid state driver license and receive a one-time safety briefing on manufacturer's precautions and safe handling techniques prior to operation.

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, 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, Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety, 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 the Risk Management, COMDTINST M3500.3 (series), 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, ensure 100 percent compliance with the training and PPE requirements.
 - 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/Managers. 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/Manager 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 government motor vehicle related-duties and also encourage individuals to apply risk management 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) Title 29 CFR 1910, “Occupational Safety and Health Standards”
- (b) Coast Guard Civil Rights Manual, COMDTINST M5350.4 (series)

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 MSD 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.

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. 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 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.
3. 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.
4. 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.
5. 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) Fire Safety, Prevention and Emergency Response Services Manual, COMDTINST M11320.1
- (b) Naval Engineering Manual, COMDTINST M9000.6 (series)
- (c) Marine Safety Manual, Volume VI, Ports and Waterways Activities, COMDTINST M16000.11 (series)
- (d) 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)
- (e) Civil Engineering Manual, COMDTINST M11000.11 (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 fire fighting, with the exceptions of: trained individuals whose primary duty is fire fighting; 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. For shore facility fire detection, alarm, prevention and suppression system requirements and for fire department, fire brigade staffing and aircraft rescue and fire fighting crew requirements, see Reference (a). 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 (b). Guidance for fighting fires aboard non-Coast Guard vessels is contained in Reference (c) and (d).

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 (e), 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 must take precedence.
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. Unit fire prevention and safety programs must meet the requirements of Reference (a).
 3. Facility Emergency Action Plan. The Unit Facility Emergency Action Plan (FEAP) must include comprehensive fire prevention, action and evacuation plans. All personnel must 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).
 5. General Fire Safety and Housekeeping. General fire safety and good housekeeping conditions must be maintained at all times to reduce the potential for fires and life safety hazards. All units must meet the requirements of Reference (a).
 6. 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.
 7. Unit Fire Inspections. Units must conduct fire inspections per Reference (a).

8. Detection and Alarm Systems. Shore facilities must be protected by fire detection, alarm and suppression systems as required by NFPA standards, Occupational Safety and Health Administration (OSHA) regulations and Reference (a). 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. Fire systems must be inspected and tested annually or more frequently as required by NFPA standards.
9. Training Program. Units must develop a personnel fire safety training program.
10. Coast Guard Personnel Ashore. Coast Guard personnel ashore must limit active engagement in fire fighting except for:
 - a. Properly trained and equipped individuals whose primary duty is fire fighting.
 - 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. Life saving purposes, while concurrently contacting local emergency personnel.
11. Reporting. All fires, including incipient stage or smoldering events, must be reported to HSWL SC (se) and the Shore Infrastructure Logistics Center (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).
12. Fire Suppression Forces. When there are no established Coast Guard fire departments, Aircraft Rescue and Fire Fighting (ARFF) crews or fire brigades, these services must be provided by other fire fighting 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. Existing Coast Guard fire departments, Aircraft Rescue and Fire Fighting (ARFF) crews and fire brigades, must provide fire protection in accordance with Reference (a).
13. Aircraft Rescue and Fire Fighting (ARFF) Protection. Full-time ARFF protection must be provided at any facility with permanently assigned fixed-wing aircraft regardless of the number of flight operations per day. Full-time ARFF protection must also be provided at any facilities with permanently assigned rotary-wing aircraft conducting an average of five or more flight operations per day (takeoffs, landings, etc.). Air station facilities (forward or seasonal operating bases) conducting fewer than five rotary-wing flight operations per day or Coast Guard facilities also require ARFF protection but can be full-time or collateral duty.

14. 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 as outlined in Reference (a). This training can be obtained from a local fire organization or fire extinguisher manufacturer training video.
15. 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 fire fighting organizations. Federal law allows government agency fire fighting 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.
16. 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.
17. 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.
18. 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 and procedures, and is authorized to interpret and waive provisions of fire safety standards including the provisions of this Manual.

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. 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.
4. Office of Naval Engineering, (CG-45). Office of Naval Engineering (CG-45) must provide support for the Coast Guard Yard fire department.
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, 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 and 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/fire fighting, fire prevention/inspection.
 - (7) Proper maintenance and testing of fixed fire detection and suppression systems within their facilities.
 - b. Ensuring the proper management, staffing, housing, and equipping of structural fire departments.
 - c. 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).
 - d. Evaluating unit monitoring of risks associated with known fire hazards.
 - e. Including fire safety in the unit Safety and Environmental Health (SEH) risk assessment surveys as required in Chapter 4 of this Manual.
 - f. Auditing the operation and administration of the fire departments using the applicable SEH checklists.
 - g. Reviewing as requested, 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 for compliance with relevant standards promulgated by OSHA, NFPA National Fire Codes, national model building codes and Reference (e).
 - h. Investigating mishaps involving fires as directed by Commandant (CG-113).
 - i. Providing or coordinating appropriate fire safety, prevention and 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 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.
- 9. Units with Fire Departments. Coast Guard units having active Coast Guard fire departments where cutters are home-ported, or where other government or private vessels are docked, must provide fire suppression services for the cutters and boats when they are in port.
- 10. 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.
- 11. Employees. Employees must:
 - a. Inspect workspaces daily for fire hazards and report hazards to supervisors.
 - b. Follow all safe work practices associated with hotwork.

CHAPTER 19 ELECTRICAL SAFETY PROGRAM

References:

- (a) Title 29 CFR §1910.331-.335, “Electrical Safety-Related Work Practices”
- (b) National Fire Protection Association (NFPA) 70, National Electric Code

- 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) and (b) 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.
 - 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 Standard Boats. In addition to the general requirements contained in Paragraph B.1 of this Section, the provisions of the Naval Engineering Manual, COMDTINST M9000.6 (series), 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 following the 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 Title 29 CFR §1915 apply.
4. Electronic and Communications Systems. In addition to the general requirement of B.1 of this Section, Electronics Manual, COMDTINST M10550.25 (series), Chapter 4, 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 Title 29 CFR §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 which 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. Welders.
 - 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 Sections 1910.331 through 1910.335 in 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, 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 electrical safety program, including the following:

- a. Assist units with establishing a written electrical safety program.
 - b. Upon request from units, conduct workplace hazard assessments 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 the Sector electrical safety program per References (a) and (b). 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.
5. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:
- a. Develop and implement an electrical safety program per References (a) and (b). Sector units must consult with the Sector Safety Manager (SSM) for assistance. Consult with the HSWL SC (se) Regional Safety and Environmental Health Office (SEHO) 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).
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, 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, Title 29 CFR §§1900 to 2400
- (c) Risk Management, 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)

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 Title 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 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. Coast Guard aviation safety examiners must conduct recurring unit-level aviation safety standardization assessments to enhance overall fleet operational safety. Aviation safety examiners are designated by Commandant (CG-1131). The assessment objectives are to provide direct feedback on the state of the unit safety posture, share safety best practices, and garner feedback on the effectiveness of the support and guidance of Commandant (CG-113).

(1) Aviation safety standardization visits are completed once during each command assignment cycle (i.e., O-5 Command: 2 yrs, O-6 Command: 3 yrs). Special requests and other circumstances might necessitate 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) must provide Safety and Environmental Health support services to aviation units for non-aviation safety programs. 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 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 of 1974 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. 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 flight data storage units (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 Service 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 Refresher 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.
- (2) Initial FSO Training. Fully-designated FSOs must complete a Commandant (CG-1131) approved FSO Performance Qualification Standard (PQS) and complete the Navy/Marine Corps Aviation Safety Officer (ASO) Course (341227) in Pensacola, FL or other Commandant (CG-1131) approved ASO 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.
- (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-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 COs and XOs must complete the Navy/Marine Corps Aviation Safety Command (ASC) course (341228) in Pensacola, FL or other Commandant (CG-1131) approved ASC course prior to assumption of command cadre duties or as soon as practicable thereafter. Completion of the ASC Course is recommended for other senior aviation command cadre. The ASC course provides the tools and techniques to ensure that leaders are equipped to oversee effective and successful aviation safety programs. The ASC course curriculum is based on the core safety policy, risk management, assurance and promotion elements present in top performing unit Safety Management Systems (SMS). The ASC course also prepares attendees to assume the key roles and responsibilities of senior unit Permanent Mishap Board (PMB) members.
- i. Aviation Safety Competencies.
 - (1) Advanced Aviation Safety Specialist. Officers who completed the Aviation Safety Science Post-Graduate Education Program are eligible for the Advanced Aviation Safety Specialist competency (AVISAFSP).
 - (2) Accident Investigation Specialist. Qualified Coast Guard FSOs, pilots and aircrew members meeting the criteria below are eligible for the Accident Investigation Specialist competency (AVS01).
 - (a) FSOs are eligible for the AVS01 competency upon completion of initial FSO Training and the Advanced Mishap Analysis and Reporting Course or other Commandant (CG-1131) approved course.
 - (b) Other qualified Coast Guard pilots and aircrew members are eligible for the AVS01 competency upon completion of the Advanced Mishap Analysis and Reporting Course and one other Commandant (CG-1131) approved safety course (e.g., FAA, NTSB, etc.).
 - (3) Crew Resource Management Refresher Instructor. Qualified Coast Guard aviators who have successfully completed the Crew Resource Management 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.
 - (4) 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). at the Aviation Safety Standardization Course (500609). This competency expires 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 the Aviation Commandant's Safety Board (CSB).
 - 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 Program Manager (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), 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.uscg.mil/forcecom/training/training_sop.asp.

- 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 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 Safety Officer and Chair of the unit Safety and Environmental Health (SEH) committee. The XO is the direct supervisor of the FSO.
 - (3) FSO Designation and Duty Limitations. Designate unit FSO(s) in writing to coordinate development, implementation and promotion of the unit's Aviation SMS. Designated FSOs must not participate in duties that might result in adverse administrative or punitive action. Commands must not assign FSOs duties that might result in a perceived conflict of interest or diminish an 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) Units with 20 or More Pilots. A Safety Department must be established. The Safety Department Head must be a qualified FSO. The Safety Department Head is the Command Safety Officer (CSO). The CSO must not serve as the Sector Safety Manager or be assigned other duties that measurably detract from billeted FSO duties or are subject to the FSO duty limitations described in C.10 (3) above.
 - (5) Units with Fewer than 20 Pilots. A Safety Department should be established. The Safety Department Head must be a qualified FSO. The FSO can be assigned other collateral duties subject to the FSO duty limitations described in C.10 (3) above.
 - (6) Ground Safety Officer (GSO). Designate unit GSO(s) in writing to coordinate development, implementation and promotion of the unit's SEH program.
 - (7) Safety Petty Officer (SPO). Consider designation of a unit SPO in writing to coordinate development, implementation and promotion of the unit's SEH program. Units can designate the SPO to perform the duties of the GSO.
 - (8) Flight Surgeon/Aeromedical Provider. Designate a Flight Surgeon in writing to facilitate the implementation of the Aviation SMS and participate as a member of the unit PMB and Human Factors Council (HFC). If a Flight Surgeon is not available, coordinate with the chain of command to secure the services of an aeromedical provider.
 - (9) 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 (PMB). Establish a PMB and designate members in writing.

(3) Human Factors Council (HFC). Establish a HFC as described in Chapter 4, Section B.1 and designate members in writing. The HFC conducts deliberations and activates a Human Factors Boards (HFB) when required to support mission execution, resolve human factors deficiencies and protect personnel privacy. HFC membership must include a Flight Surgeon or aeromedical provider.

d. Respond to Mishaps.

(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 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 Area of Responsibility (AOR).

e. Provide Fall Protection. Comply with fall protection requirements described in Title 24 and 29 CFR §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 (DFS0). The Deployed Flight Safety Officer (DFS0) 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 DFS0. If the DFS0 is not a formally designated FSO, the unit FSO must train the DFS0 to effectively handle routine safety matters. The DFS0 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. Flight Surgeon. When assigned, the Flight Surgeon must assist the command in aeromedical aspects of aviation safety. Flight Surgeon aviation training requirements are covered in Reference (d). Flight Surgeons or aeromedical providers 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 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.

- (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.b 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/Manager position described in Chapter 2 of this Manual. In addition to the Safety Officer/Manager responsibilities described in Chapter 2 of this Manual, aviation unit GSOs must:

- a. Complete the 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) Risk Management, COMDTINST 3500.3 (series)
- (b) Naval Engineering Manual, COMDTINST M9000.6 (series)
- (c) Ordnance Manual, COMDTINST M8000.2 (series) (FOUO)
- (d) Range Training Handbook Tactics, Techniques, and Procedures (TTP), CGTTP 3-30.3
- (e) Ordnance Tactics, Techniques, and Procedures (TTP), CGTTP 3-30.2
- (f) Coast Guard Medical Manual, COMDTINST M6000.1 (series), Chapter 12, Occupational Medical Surveillance and Evaluation Program (OMSEP)

A. Discussion. The afloat safety policies detailed in this Chapter supplement general safety and environmental health policies and responsibilities detailed in this Manual. The leadership responsibility for afloat safety originates with the Commanding Officer/Officer-in-Charge (CO/OIC). While the CO/OIC cannot singlehandedly ensure the safety of the vessels and crew for which they bear ultimate responsibility, their command climate towards safety forms the cornerstone of any effective safety program. Further information is available by contacting HSWL SC (se).

1. Background. Safety is an integral part of all Coast Guard vessel operations. 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. This Chapter applies to all unit commanders operating cutters and/or boats to fulfill missions or activities. Vessels include cutters, boats, and Coast Guard Auxiliary boats operating under 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.

B. Program Requirements.

1. Designation. Designate in writing a Safety Officer who implements the safety program. The Executive Officer/Executive Petty Officer (XO/XPO) must be designated as the unit Safety Officer.
2. Surface Safety Systems Post Graduate Education. 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).

3. Advanced Surface Safety Specialist. Officers who complete the Surface Safety Systems Post-Graduate Education Program are eligible for the Advanced Surface Safety Specialist competency (SURSAFSP).
4. Risk Management (RM). Incorporate RM into daily operations including missions per Reference (a).
5. Mishap Response Plan (MRP). Develop, implement and maintain a MRP. Units must exercise the plan per Chapter 3 of this Manual.
6. Safety Committee. Establish a Safety and Environmental Health (SEH) committee which 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.
7. Unit Safety Assessment Tool (USAT). 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.
8. Fire Hazards. 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 (b).
9. Firearms and Explosive Safety. For the Coast Guard's governing policy regarding the administration, use, training, and maintenance of firearms, weapons systems, and munitions refer to Reference (c). Guidance on weapons and munitions specific TTP is found in References (d) and (e).
10. Confined Space Entry (CSE). Develop, implement and maintain a CSE program which meets the requirements of Reference (b) and Chapter 13 of this Manual.
11. Safety Stand Down. Conduct a safety stand down at least annually. Each afloat 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.

12. 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:

- a. 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.
- 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.

13. Restrictions. State level Occupational Safety and Health (OSH) inspectors are generally not permitted access to Coast Guard work places, regardless of their classification as militarily unique; refer to Table 1-1 in Chapter 1 of this Manual.

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 Tripartite (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. Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC) must:
- a. Manage and provide SEH support services for afloat safety.
 - b. For major cutters – those requiring Tailored Ship's Training Availability (TSTA/CART), conduct SMART/CART visits according to CART schedule.
 - c. Conduct SMART visits every three years for non major cutters.
 - 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.
3. Area and District Commanders. Area and District Commanders must:
- a. Review and endorse afloat Mishap Analysis Reports (MARs) as directed.
 - b. Ensure that the provisions of this program are implemented.
4. Sector Commanders. Sector Commanders must:
- a. Review and endorse afloat Mishaps Analysis Reports (MARs) as directed.
 - b. Review mishap reports of subordinate commands.
 - c. Ensure that the provisions of this program are implemented.

5. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:
- a. Implement SEH program requirements per this Manual.
 - b. Designate the XO/XPO as the unit Safety Officer.
 - c. Appoint an Assistant Safety Officer to assist the unit XO/XPO in implementing the unit SEH program.
 - d. Maintain an MRP and ensure that the MRP is drilled and updated annually.
 - e. Establish a unit PMB per Chapter 3 of this Manual.
 - f. Ensure unit personnel are provided adequate training on the hazards and operations of their work processes and equipment.
 - g. Establish SEH committees with appropriate divisions and field representation meeting at least quarterly per Chapter 5 of this Manual.
 - h. Establish specific hazard related programs per this Manual, including: respiratory protection, heat stress, hearing conservation, confined space entry, and hazard communication.
 - i. Conduct hazard assessments and coordinate SEH support services with HSWL SC (se). See Chapter 4 for additional details.
 - j. Conduct annual formal safety inspections (or more frequent if required) of the unit using USAT.
 - k. Investigate and report vessel/boat mishaps per Chapter 3 of this Manual.
 - l. Review and endorse afloat Mishaps MARs as directed.
 - m. Ensure that hazardous conditions are abated or controlled. Imminent danger conditions must be corrected immediately.
 - n. Purchase, maintain and require the use of appropriate protective and safety equipment per Chapter 7 of this Manual.
 - o. Implement other specialized SEH programs, as applicable, per guidance in this Manual.
 - p. Assign other duties as necessary to include:
 - (1) OMSEP Coordinator per Reference (f).
 - (2) Respiratory Protection Coordinator per Chapter 9 of this Manual.

(3) Asbestos Management Coordinator per Chapter 12 of this Manual.

6. Supervisors. Supervisors must:

- a. Ensure subordinate personnel are provided adequate training on the hazards and operations of their work processes and equipment.
- b. Inspect workspaces daily to identify hazardous conditions
- c. Ensure hazardous conditions are reported and abated. Imminent danger conditions must be corrected immediately.

7. Employees. Employees must:

- a. Inspect workspaces daily to identify hazardous conditions; report hazardous conditions immediately to supervisors.
- b. Perform duties in the safest possible manner and encourage fellow employees to do likewise.

CHAPTER 22 IONIZING RADIATION PROGRAM

References:

- (a) Special Missions Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives (CBRNE) Manual, COMDTINST M16601.12 series (NOTAL)
- (b) Coast Guard Medical Manual, COMDTINST M6000.1 (series)
- (c) Title 10 CFR §§19, 20, 30, 31, 33, 35
- (d) U.S. Army Dosimetry Center Customer Handbook (current version)
- (e) Management and Control of Diagnostic, Therapeutic, and Medical Research X-Ray Systems and Facilities, U.S Army Technical Bulletin Medical 521
- (f) Navy RADIAC User's Manual, SE700-AA-MAN-100/RADIAC, Volume 1, Revision 3
- (g) Maritime Radiation Detection Policy, COMDTINST 16600.2 (series) (FOUO)

A. Discussion. This Chapter provides general program management and authorities for the Coast Guard Ionizing Radiation Program. Compliance with this Chapter ensures that the potential for ionizing radiation exposures is minimized and that materials and systems are appropriately used and safeguarded.

1. Background. The term non-ionizing refers to forms of radiation, which do not have sufficient energy to cause ionization of atoms or molecules. 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.

2. Application. This Chapter does not apply to:

- a. Personnel under special missions as identified in Reference (a); however, the use of Radioactivity, Detection, Indication and Computation (RADIAC) instruments outside of special missions is covered by this Chapter.
- b. Individuals exposed to ionizing radiation when used for the diagnosis or treatment of medical or dental conditions;
- c. Individuals exposed to common low level consumer products such as smoke detectors or unlicensed materials; and,
- d. 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.

B. Program Requirements.

1. Occupational Exposure. 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 CFR Part 20; Subpart C.
2. Radiation Health Representative. Units with ionizing radiation producing equipment must appoint a radiation health representative who must ensure that the requirements of this Manual and References (a) through (g) are implemented.
3. Training.
 - a. Per Reference (c), 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. 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. Radiation health representative must be trained in basic knowledge of radiation safety practices and procedure such as the training required under RSO; as well as the unit operational procedures where the radiation producing equipment is used. The Radiation Safety course in SkillPort, USCG Portal (Training and Education), provides basic training on radiation safety.
4. Acquisition or Procurement. Equipment containing an ionizing radiation source or capable of producing ionizing radiation must be vetted through HSWL SC (se) and Commandant (CG-113) prior to procurement to ensure that a facility Nuclear Regulatory Commission (NRC) license is not required for the equipment.
5. Licensure. 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.
6. Declared Pregnant Worker.
 - a. A woman performing duties that require monitoring for radiation exposure must inform her unit's designated healthcare representative in writing of her 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.
 - b. The declaration statement must be filed in the individual's health record per References (b) and (c).

- c. 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.
 - d. If it is determined that 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.
7. Equipment Inventory. All units with radiation producing equipment must maintain an inventory to include equipment type, location, calibration dates and model or series number.
8. 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 TLDs are collected and mailed back for analysis per Reference (d).
- a. Interagency Agreement (IAA). The Coast Guard has an IAA with the U.S. Army Test, Measurement, and Diagnostic Equipment Activity (USATA) to provide the following dosimetry services:
 - (1) Supply thermo luminescent dosimeters (TLD) 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.

- b. Exposed Individuals. Except as noted in Paragraph B.6 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) and Commandant (CG-1132) to coordinate enrollment of the new system in the Army's dosimetry program.
9. X-Ray Systems.
- a. Memorandum of understanding (MOU). 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. 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.
 - c. Industrial X-Ray Systems. Units with industrial x-ray systems must ensure that systems are properly calibrated and maintained according to manufacturer's instructions.
10. RADIAC Equipment Interagency Agreement (IAA) Part A. The Coast Guard has an IAA with Naval Sea Systems Command (NAVSEA) to:
- a. Provide and maintain RADIAC equipment per Reference (f).
 - b. Units with RADIAC equipment must ensure that there is an authorized RADIAC equipment allowance in place prior to use per Reference (f).

- c. Units requesting establishment, changing and/or de-establishing an equipment allowance must route their request through the proper chain of command to Commandant (CG-113).
- d. Format and procedure for requesting equipment allowance is per Reference (f)
- e. Proper execution of the IAA requires completion of Part B which provides the means of funding for services.

11. 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.

C. Responsibilities.

1. Chief, Safety and Environmental Health (CG-113). Chief, Safety and Environmental Health (CG-113) must:
 - a. Establish and promulgate policies, procedures and standards for Coast Guard medical diagnostic x-ray facilities.
 - b. Serve as the Coast Guard liaison with the Department of Homeland Security (DHS), the Department of Defense (DoD) and all federal agencies in their support of the program.
 - c. Provide a mechanism for funding of all associated costs with establishing, changing and/or disestablishing 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. Establish, change and disestablish RADIAC instruments for the Cutters and Deployable Specialized Forces (DSF), per Reference (f) and (g).
 - b. Provide a mechanism for funding of RADIAC equipment calibration and maintenance and associated fees.
3. Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC) must:

- a. Ensure facilities with medical diagnostic x-ray capability comply with the requirements of this Chapter.
 - b. Conduct unit-level evaluations to determine compliance with this Chapter, References (a) through (c) and the following:
 - (1) Title 29 CFR §1910.1096 – Ionizing Radiation;
 - (2) Title 39 CFR – United States Postal Service (for transportation of radioactive material by mail);
 - (3) Title 49 CFR – Transportation (for transportation of radioactive material by public roads)
 - (4) Nuclear Regulatory Commission (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 and certification of instruments.
 - c. Report all discrepancies to HSWL SC (se).
 - d. Ensure that all personnel operating radioactive equipment are trained and certified.
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) must appoint a radiation health representative per Reference (c).
 - f. Ensure that that Units' RADIAC equipment allowance is in place per Reference (f)

- g. Ensure personnel operating radioactive equipment are trained and certified
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 radiation health representative, 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) and Commandant (CG-113) 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. Radiation Health Representative. Radiation Health Representative must:
- a. Ensure compliance with the personnel dosimeter quality assurance and personnel monitoring programs as outlined in this Chapter.
 - b. Receive and distribute dosimeters to individuals in the program.
 - c. Instruct each dosimeter wearer of its purpose and proper use.
 - d. Collect dosimeters promptly at the end of the monitoring period and ship them for analysis.
 - e. Promptly send requests for guidance and changes to the personnel monitoring program via phone or email, to the Radiation Safety Officer (RSO) at Commandant (CG-113), and HSWL SC (se).
 - f. Maintain all quality assurance and personnel monitoring records and dosimetry reports.
 - g. Review radiation reports for unusual exposures.
 - h. Ensure evaluation of medical or dental diagnostic x-ray equipment at least once every two years.
 - i. Ensure evaluation of the following: new x-ray equipment before its use; when x-ray equipment is moved to a different location; new x-ray facilities are constructed; and existing x-ray facilities are renovated.
 - j. Ensure that units with RADIAC equipment have an authorized equipment allowance and equipment is maintained per Reference. (f)
 - k. Maintain an inventory of all radiation producing equipment at the unit.

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 and References (a) through (c).

CHAPTER 23 NON-IONIZING RADIATION PROGRAM

References:

- (a) Title 21 CFR §1040.10, “Performance Standards for Light Emitting Products”
- (b) American National Standards Institute (ANSI) Z136.1, American National Standard for the Safe Use of Lasers
- (c) Title 21 CFR §1010.5, “Exemptions for Products Intended for U.S. Government Use”
- (d) Coast Guard Medical Manual, COMDTINST M6000.1(series)
- (e) American Council of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV) and Biological Exposure Indices (BEI)
- (f) Electronics Manual, COMDTINST M10550.25 (series)
- (g) 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
- (h) Protecting People from Electromagnetic Fields, Department of Defense Instruction 6055.11
- (i) 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
- (j) 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)

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 which eliminate or control potentially hazardous Non-Ionizing Radiation (NIR) exposures as per References (a) through (j). 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.
 - a. Non-Ionizing Radiation (NIR) Devices. The Coast Guard possesses devices which, 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.
 - b. 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.

- c. 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.
 - d. Naming Conventions for Lasers. References (a) and (b) differ slightly in naming conventions for lasers ((Roman numeral for the CFRs (I, II, IIIa, IIIb, IV) versus alphanumeric for the American National Standards Institute (ANSI) standards (1/1M 2/2M, 3A/3R, 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.
 - e. Laser Maximum Permissible Exposure (MPE). Laser MPEs are set to protect tissue from damage and are not the equivalent of comfortable viewing levels.
2. Application. This Chapter applies to all Coast Guard members, and provides specific policy direction for all NIRs including the 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. Non-Ionizing Radiation Program Requirements.
 - a. Limitation. Limit personnel NIR exposures to levels that are below or within MPE or 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 (b) & (f)) and TLV (see Reference (e)).
 - 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.k of this Chapter for a summary of all laser reporting requirements.

2. Laser Program Requirements.

- a. 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. 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 must be part of a local unit inventory.
 - (2) Class 2. 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 for awareness purposes.
 - (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.
 - (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. Additional information is in enclosure (1). All Class 4 Lasers must be specifically approved per this Chapter prior to use.
- b. Laser Hazard Control Standing Committee (LHCSC). The LHCSC must review each new Class 3B and Class 4 Laser, or any laser requiring exemption from federal regulations. At a minimum, the laser acquisition sponsor must provide the following items:
 - (1) Design of the system to include independent verification of the manufacturer's laser parameters, hazard classification, hazard distances, optical density requirements, engineering controls required and recommended, and compliant with Reference (a).
 - (2) Doctrine, policy and TTP required to implement the safe and effective operation of the system, to specifically include assessment of the potential harm to the public or to individuals on other aircraft, ships, boats, including operators using binoculars. This must include at a minimum, the appropriate inclusion in Operations Manuals (Air Operations, Surface Operations, Flight Manuals, Small Arms Manuals, etc), Tactics, Techniques, and Procedures (TTP) Manuals, Maintenance Manuals, Maintenance Procedure Cards (MPCs), and any required local instructions.
 - (3) Documentation and training support for the system.
 - (4) Legal review of the employment and use plan with specific emphasis on the hazardous potential of the system within the proposed operating environment to the general public and marine wildlife.
 - (5) Safety features of the system to include all applied control measures, PPE, Standard Operating Procedures (SOP), interlock systems, emergency cutoff, use of control areas, etc.
 - (6) Formal risk assessment of the hazard to Coast Guard personnel and to those with whom Coast Guard personnel come in contact with versus the effectiveness gained as part of acceptance determinations.

- c. Coast Guard Safety and Occupational Health Council (SOHC). The LHCSC 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.
- d. 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 LHCSC must review and make the final disposition.
- e. 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. They must have the authority to suspend, restrict, or terminate the operation of a laser system if it is deemed that laser hazard controls are inadequate or if the system is used outside of its intended guidance or environment.
- f. Laser Radiation Hazard (RADHAZ) Control Measures.
 - (1) The mandatory performance specifications for laser products listed in Reference (a) and requirements in Reference (b) 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 (b) must be reviewed for incorporation of the most appropriate additional administrative & procedural control measures.
 - (3) The LHCSC is the main focal point for ensuring the proper mix of control measures is established.

g. Training and Education.

- (1) All users of Class 3B and Class 4 Lasers must be trained prior to operational use. Training must be conducted annually thereafter. 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.

h. 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 (d) must be medically monitored for exposure to NIR. Medical Surveillance is not a requirement for personnel working with Class 1, Class 2, or Class 3A / 3R Lasers or laser systems.
- (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.

- (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.

i. 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 LHCSC. 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.

j. Laser Acquisition.

- (1) All laser systems entering commerce in the United States must comply with Reference (a), also known as the Federal Laser Product Performance Standard (FLPPS). Since the Food and Drug Administration (FDA), who regulates lasers in the U.S., has not granted an exemption to these requirements to the Coast Guard, all laser systems sold/delivered to the Coast Guard must comply with all provisions of the FLPPS, whether it is a single experimental prototype for demonstration, test and evaluation, or procured for fielding. Manufacturers that cannot comply fully with the FLPPS 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 (PR) 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, or any laser requiring exemption (unable to comply with FLPPS due to mission requirements) from federal regulations:
 - (a) All lasers in this classification require consultation and review by the LHCSC 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 LHCSC must make internal recommendations to the SOHC regarding validity of compliance documentation and recommendations for additional administrative and procedural control measure as required.
 - (c) For lasers that require an exemption from the FLPPS, the laser acquisition sponsor must submit the required package via an approved electronic file transfer method (e.g., email, file transfer protocol, etc.) to FDA’s Center for Devices and Radiological Health (CDRH).
 - (d) At a minimum, laser use request packages to the LHCSC 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 LHCSC 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); mission specific TTP manuals; and individual flight manuals or operator manuals).

- [3] Formal Risk Assessment of Hazards. Additional guidance must be coordinated by the Commandant (CG-113) representative or the LHCSC 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.
- [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.f (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 LHCSC review.
- k. 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) All crewmember laser exposure incidents, including those that do not result in personnel injury must, at a minimum, be reported as an *Other Reportable Occurrence* per Chapter 3 of this Manual. Laser exposure incidents must be investigated; documented; and classified as a Class D mishap (unless personnel injury severity warrants higher classification).
 - (2) All aircrew laser exposure incidents originating from unknown sources (e.g. local community) must also be reported to Coast Guard Investigative Service (CGIS) and local law enforcement through the nearest controlling agency.
 - (3) 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.
 - (4) 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. Radio Frequency (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. Coast Guard RF Hazards. Reference (f) describes RF hazards that exist at Coast Guard units; responsibilities for RADHAZ training and compliance; safety practices to limit exposure to RF radiation and use of appropriate warning signs in areas where an RF RADHAZ exists. This reference 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.
 - d. Guidance. Units requiring evaluation of RF hazards and measurements must contact HSWL SC (se) for guidance.
4. 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.
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.

C. Responsibilities.

1. General 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 potentially 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, Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety, 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) acquire the necessary knowledge and skill to assist in the administration of the NIR 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 RF hazard 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 Sector Safety Manager (SSM), District Safety and Risk Management (RM) Committee, Commandant (CG-113), and any command that must control or eliminate identified hazards.

- 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.
 - (4) Maintain and forward a copy of the hazard evaluation to Sector Safety Office and HSWL SC (se).
- f. Supervisors. Supervisors must:
 - (1) Ensure that all employees under their supervision who are potentially exposed to non-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.
 - (2) Actively participate in the leadership and mentorship of junior Coast Guard members with regard to hazards associated with non-ionizing radiation.
- g. 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.

2. Laser Program Responsibilities.

- a. Deputy Commandant for Mission Support (DCMS). Deputy Commandant for Mission Support (DCMS) must:
 - (1) Ensure that 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 that employ 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 LHCSC 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 (JAG) & Chief Counsel, Commandant (CG-094). Judge Advocate General (JAG) & Chief Counsel, Commandant (CG-094) must:
 - (1) Designate members as needed to act as representatives on LHCSC and SOHC activities.
 - (2) Review all requests for laser exemption from federal law as outlined in Reference (a) and for all Class 3B and Class 4 Lasers used in Coast Guard operations.
 - (3) Determine if deviations from federal law and the potential injury to the general public and/ or marine wildlife are 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: LHCSC review protocol and support, standardized laser training, medical surveillance, and incident/accident reporting procedures (both medical emergency and safety).
 - (2) 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.
 - (3) Designate an appropriate number of staff personnel to act as regional LHSO for field support regarding laser hazard assessments, technical concerns and quality accession.
- f. Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC) must:
 - (1) Develop TTP to ensure compliance with this Chapter and applicable Federal, State, and local regulations.
 - (2) Ensure Safety and Environmental Health Officers (SEHO) acquire 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 Sector Safety Manager (SSM), District Safety and Risk Management (RM) Committee, Commandant (CG-113), and any command that must control or eliminate identified hazards.
- g. Units with Class 1, 2, or 3A / 3R Lasers or Laser Systems. Units with Class 1, 2, 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 to 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 inventory of all lasers in the property management system and submit via email to Commandant (CG-113) and FORCECOM an annual inventory of all Class 3B and Class 4 Lasers, and lasers requiring exemption from federal regulations.
 - (6) Designate unit personnel who require medical surveillance.

- (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). Laser Hazard Safety Officer (LHSO) must:

- (1) Identify all lasers used at the unit and maintain a local inventory. For Class 3A Lasers and below it is not necessary to account for each individual laser, but at a minimum the LHSO must have an understanding of how they are being used at the unit. 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) Title 29 CFR 1910, Subpart D, “Occupational Safety and Health Standards for General Industry”
- (b) Title 29 CFR 1926, Subpart M, “Safety and Health Regulations for Construction”
- (c) Title 29 CFR §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)

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 and injuries stemming from failure to comply with established Fall Protection (FP) requirements are inexcusable. Careful activity planning and preparation establish the necessary groundwork for a mishap-free workplace. The intent of this Chapter is to establish policy for 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. 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 fall protection program,
 - 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 fall protection systems.
3. Application of Fall Protection Measures. Per Reference (a), the standard threshold height mandating fall protection is four (4) feet. Units must provide fall protection to members (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 fall protection to members (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 calling for fall protection 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.
3. 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.
4. Fall Protection Equipment. Fall protection 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.
5. Additional Guidance. Further information regarding compliance with and implementation of fall protection 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, 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 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 fall protection 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 Safety and Environmental Health Office (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 fall protection 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 fall protection 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 fall protection 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 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 1991
- (h) Public Spas, ANSI/NSPI-2 1999
- (i) Title 40 CFR §150 -189, "Pesticide Regulations"
- (j) U. S. Navy Shipboard Pest Control Manual, NAVMED P-5010-26
- (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 Service Sanitation Manual, COMDTINST M6240.4 (series)
- (n) U. S. Food and Drug Administration Food Code
- (o) Naval Engineering Manual, COMDTINST M9000.6 (series), Chapter 530, Potable Water Systems
- (p) Title 40 CFR §100-149, "Environmental Protection Agency (EPA), Effluent Guidelines"
- (q) Title 40 CFR §763, "Asbestos Containing Materials in Schools"
- (r) HUD Technical Guidelines for the Evaluation and Control of Lead-Based Paint (LBP) Hazards in Housing
- (s) Title 40 CFR §745, "EPA Lead-based Paint (LBP) Poisoning Prevention in Certain Residential Structures"
- (t) Title 40 CFR §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.

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 unit members 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. Application. Program requirements are based on standards and policies contained within References (a) through (ff). Except as detailed in Paragraph B.6 of this Chapter, environmental health requirements for Child Development Centers (CDC) are contained in Reference (f). Lead protection program requirements linked to general industry, shipyards, and construction work, are contained in Chapter 27. 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.

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, must meet the requirements as established in this Chapter.
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. 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. Policy and procedures are consistent with the Federal Insecticide, Fungicide and Rodenticide Act, EPA and Occupational Safety and Health Administration (OSHA) standards.
- b. Pesticide Applicator Training and Certification. All Coast Guard military and civilian pesticide applicators 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 work. A copy of the certification or license must be maintained onboard the unit.
 - (2) 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 and have received authorization from Chief, Health, Safety, Work-Life Service Center, Safety and Environmental Health Division (HSWL SC (se)) to apply non-restricted use pesticides afloat. This program is not available to civilians. Four hours of annual refresher training is required.
 - (3) Coast Guard Limited Duty Pesticide Applicators. Coast Guard Limited Duty Pesticide Applicators are military members authorized by HSWL SC (se) to apply non-restricted use pesticides on Coast Guard property. This authorization is limited to isolated duty stations or where commercial pest control services are not readily available or are cost prohibitive. Approvals are limited to specific targeted pests, products and facilities. Personnel must meet any state training requirements for applying non-restricted use pesticides. Contact HSWL SC (se) to request approval for limited duty applicators.
 - (4) Shipboard Pest Control Training. Afloat unit Food Service Specialists must attend shipboard pest control 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 HS in applying pesticides, when directly supervised by authorized personnel.
- c. Integrated Pest Management (IPM) Strategy. All units must establish and maintain safe, efficient, and environmentally sound IPM programs to control pests that may adversely affect health or damage structures or property.

- d. Record Keeping. Each unit must maintain a log of all pesticide applications, including general use pesticides. The log must be maintained for a minimum of two years. Non-chemical pest control activities involved in pest management should also be documented.
 - e. 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.
 - f. 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 sheets. All pesticides must be used according to manufacturer's directions.
 - g. 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.d. of this Chapter. A copy of the certification or license of all commercial applicators must be maintained at the unit.
 - h. Rodent Control for Afloat Commands. Commanders of afloat units who travel overseas must maintain a Centers for Disease Control and Prevention (CDC) – Ship Sanitation Control Certificate obtained through HSWL SC (se) or a HSWL SC (se) authorized representative, and keep it current every six months. One month extensions can be granted if a request is made to the original issuer before the certificate expires. When moored, approved rat guards must be properly installed on all ship-shore lines at a minimum distance of 6 feet from ship's hull and 6 feet from the shore, see References (j), (bb), (cc) and (dd) for guidance.
 - i. 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 requirements for the Coast Guard's food service sanitation program. Reference (n) is the industry standard for food service sanitation. Reference (ee) 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. Until the publication and implementation of the Food Service Sanitation TTP, Reference (m) remains in effect. In the interim, use References (n) and (ee) to supplement Reference (m) and address outdated standards, criteria, procedures and/or roles.
- d. The Food Service Sanitation TTP must include all relevant tactics, techniques, and procedures from Reference (m). Other food service industry best practices (i.e., ServeSafe®, etc.) should also be reviewed for Coast Guard relevancy and included in the Food Service Sanitation TTP.
- e. Required Program Elements:
 - (1) A Food Service Officer (FSO) must be appointed by the Commanding Officer (CO).
 - (2) The unit HS or Executive Officer (XO) must perform weekly food service facilities inspections. Results of the inspection must be submitted to the unit CO/Officer-in-Charge (CO/OIC) with copies provided to the FSO.
 - (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 of Reference (m). Immediately consult with HSWL SC (se) for assistance in a food borne illness investigation.
 - (7) Food service personnel must be trained annually on sanitation requirements. Food service personnel not routinely involved in food preparation duties should receive refresher training on sanitation requirements prior to assumption of those duties.
- f. 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.
- (8) Prevent cross-connections between the potable water systems 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 complaints of taste or smell of the water 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 throughout the unit to meet standards outlined in Reference (t).
- (3) Properly label all non-potable water sources.
- (4) Properly protect and maintain well water sources per Reference (t).

- (5) All complaints of taste or smell in the water 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) 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 that personnel who conduct maintenance are trained on the CHT systems. Training must include personal hygiene, sanitation, Personal Protective Equipment (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 local laws and regulations.
- (5) Further information is available by contacting HSWL SC (se).

6. Coast Guard Housing Asbestos, Lead and Radon (LAR) Program Requirements.

- a. Application. For Lead-Based Paint (LBP) hazards, the requirements of this Chapter 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.
- b. Risks. Assess risks posed by Asbestos-Containing Material (ACM), lead, and radon in pre-1981 Coast Guard controlled housing and CDCs. Risks identified at the major or action finding levels must receive, appropriate corrective actions, per Section B.7 of this Chapter. Risks identified at or above the monitoring level must continue to receive an annual visual follow-up re-assessment by the Area Housing Officer or Local Housing Officer (AHO or LHO) and any changes in condition must be reported to the Owned Housing Maintenance Coordinator (OHMC) for 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.
- c. 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.
- d. Lead-Based Paint (LBP) and Lead in Dust.
 - (1) 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) must conduct analysis of lead samples. Only a certified Lead Risk Assessor is authorized to interpret and make recommendations of sampling results.
 - (2) Licensed renovators or licensed firms performing renovations must use the new EPA-developed pamphlet titled "Renovate Right" found in Reference (s).
 - (3) Coast Guard personnel are only allowed to conduct minor repair and maintenance activities.
- e. 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.
- f. Lead in Water. Drinking water inspection, sampling and analysis for lead must be conducted per the requirements of Reference (t).

- g. Radon. Sampling and analysis must be conducted per the guidelines set forth in References (u) and (v), using EPA recommended testing devices.
 - h. 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.
7. Environmental Risk Assessment (ERA) Standards.
- a. Asbestos.
 - (1) Monitoring Level. ACM and Presumed Asbestos Containing Material (PACM), which are intact and have a low potential for disturbance, as in category 7 using Reference (q) hazard assessment guidelines.
 - (2) Action Level: ACM or PACM that score fair (damage) or have moderate potential for damage, as in category 5 & 6 using Reference (q) hazard assessment guidelines and airborne asbestos concentrations are less than 0.01 fibers per cubic centimeter (f/cc).
 - (3) Major Finding. ACM in poor (significantly damaged) condition or has a high potential for significant damage, as in category 1-4 using Reference (q) hazard assessment guidelines or airborne asbestos concentrations are greater than 0.01 f/cc.
 - b. Lead in Paint.
 - (1) Monitoring Level. Interior or exterior paint has a lead content greater than or equal to:
 - (a) 1.0 milligram per centimeter square (1.0 mg/cm²) as determined by an XRF Gun, or
 - (b) 0.5% by weight as determined by lab analysis of paint chip; and the entire surface is intact when assessed using Reference (s) guidelines.
 - (2) Action Level. Interior or exterior paint has a lead content greater than or equal to:
 - (a) 1.0 mg/cm² or
 - (b) 0.5% by weight; and the paint surface is in fair or poor condition when assessed using Reference (s) guidelines.

- (3) Major Finding. Interior or exterior paint has a lead content greater than or equal to:
 - (a) 1.0 mg/cm² or
 - (b) 0.5% by weight; and the paint surface is in poor condition when assessed using Reference (s) guidelines; and the paint is in an area used by a pregnant woman and/or a small child (under the age of 7 yrs).

c. Lead in Dust.

- (1) Monitoring Level. Normally occupied interior areas found to contain lead dust:
 - (a) Floors (carpeted and uncarpeted). Less than 40 micrograms per square foot (40 ug/ft²).
 - (b) Interior Window Sills. Less than 250 ug/ft².
 - (c) Window Troughs. Less than 400 ug/ft².
- (2) Action Level. Normally occupied interior areas found to contain lead dust above the monitoring level:
 - (a) Floors (carpeted and uncarpeted). Greater than or equal to 40 ug/ft².
 - (b) Interior Window Sills. Greater than or equal to 250 ug/ft².
 - (c) Window Troughs. Greater than or equal to 400 ug/ft².
- (3) Major Finding. Action Level conditions are met and a small child and/or pregnant woman use the area.

d. Lead in Soil.

- (1) Monitoring Level:
 - (a) Bare residential soil around building perimeters and yards. 400 – 1200 parts per million (ppm).
 - (b) Play areas and high-contact areas for children. 100 – 200 ppm.
- (2) Action Level:
 - (a) Bare residential soil around building perimeters and yards. 1200 – 5000 ppm.
 - (b) Play areas and high contact areas for children. 200 – 400 ppm.

(3) Major Finding:

- (a) Bare residential soil around building perimeters and yards. Greater than 5000 ppm.
- (b) Play areas and high contact areas for children. Greater than 400 ppm.

e. Lead in Water.

- (1) Monitoring Level. Levels less than 15 micrograms per liter (ug/L) or parts per billion (ppb) do not need to be monitored.
- (2) Action Level. 15 – 20 ug/L or ppb.
- (3) Major Finding. Greater than 20 ug/L or ppb.

f. Radon.

- (1) Monitoring Level. Levels less than 4 picocuries per liter (pCi/L) do not need to be monitored.
- (2) Action Level. 4 – 10 pCi/L.
- (3) Major Finding. Greater than 10 pCi/L present in interior areas.

8. Corrective Actions.

- a. Major Level Findings. Major level findings present a high health risk to Coast Guard members and their family members. 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 high-risk environment. At a minimum, any interim controls must reduce the risk to the monitoring level.
- b. Action Level Findings. Action Level findings present a moderate health risk to Coast Guard members and their family members. Action Level findings must receive interim control that either manage the hazard in place or abate 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.
- c. Monitoring Level Findings. Monitoring Level findings must continue to receive visual re-assessment annually.

- d. 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).
 - e. 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.
 - f. Asbestos Mitigation. Asbestos mitigation work is only authorized for emergency situation 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.
 - g. Radon Service Professional. A qualified radon service professional must correct all radon Major or Action Level findings.
9. Blood Lead Screening, Testing And Follow Up. The parents of small children residing in Coast Guard controlled housing or using a CDC, which 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 (5ug/dL) must be re-evaluated using established confirmatory testing for lead. If the results of confirmatory testing confirm 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 HSWL SC (se) detached Safety and Environmental Health Officer (SEHO), following References (r), (s) and (y) guidelines, will initiate an Elevated Blood Lead (EBL) investigation. The child must be reevaluated using established confirmatory testing.
10. Re-Assessments.
- a. 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 HSWL SC (se) detached 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.
 - b. 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.

- c. 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).
- d. 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.
- e. 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.

11. Housing Training and Accreditation.

- a. Personnel Performing ACM Inspections and Management Planning or LBP Inspection and Risk Assessments. HSWL SC (se) personnel and Base OHMC performing ACM inspections and management planning or LBP inspections and risk assessments must successfully complete an EPA accredited asbestos Inspector/Management Planner and/or LBP Inspector/Risk Assessor course (and/or appropriate State approved training courses), and receive and maintain the corresponding certification. Personnel assigned to billets tasked with planning ACM/LBP program compliance activities should complete the training courses described above to provide essential technical guidance and general awareness information.
- b. Housing Inspectors. All Housing Inspectors must complete the Coast Guard's Housing Inspector course ERA Lead, Asbestos and Radon (LAR) Housing Inspector course (TQC Course Code #501591).
- c. Training Costs. The above training costs are requested in Commandant (CG-113) annual AFC-56 training budget request with quota requests from Commandant (CG-1333).
- d. Recertification. All recertification must be conducted per schedules in References (q) and (s).

12. Disclosure.

- a. 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). COs at all levels, through their AHOs and LHOs, must provide disclosure letters per Reference (ee) to current occupants and all future occupants as follows:

- (1) State the 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.
 - (2) Identify the location(s) where asbestos, lead and radon risks were found.
 - (3) Disclose past and future planned abatement efforts; give specific dates of abatement, if known.
 - (4) Identify a point of contact if LBP or ACM become damaged or if the presence of radon is suspected.
 - (5) Outline the type of activities housing occupants should not participate in (sanding, drilling, etc.).
- b. 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-base paint and/or asbestos. Based on statistical sampling of other similar housing in your area, LBP or asbestos may be found in (state locations)." Also, state, "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.
- c. 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 Program 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, Health, Safety, 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 Service 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 Shore Infrastructure Logistics Center (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.
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, Shore Infrastructure Logistics Command (SILC). Commanding Officer, Shore Infrastructure Logistics Command (SILC) must:
- a. 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.
 - b. 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.
 - c. For renovations in child occupied facilities or common access areas, informational signs must be posted where they are readily visible describing the nature, locations and dates of renovations, and
 - d. Retain all renovation records per Reference (aa).

6. 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.
7. 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).
 - 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.

8. 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 HSWL SC (se) detached 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 detached 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, Shore Infrastructure Logistics Center (SILC) and Civil Engineering Units (CEUs) to ensure that 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.
 - p. Standards for other facilities, including campgrounds, picnic areas, play grounds, gymnasiums, and theaters are found in Reference (e).
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 which 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/safety manager or supervisor.

CHAPTER 26 OCCUPATIONAL HEALTH – INDUSTRIAL HYGIENE PROGRAM

References:

- (a) Title 29 CFR § 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 Medical Manual, COMDTINST M6000.1 (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.

A. Discussion.

1. Background. The Occupational Health (OH) program deals with the management of insidious health effects produced by long term (chronic) exposure to toxic chemicals (i.e. lead, chromium, etc.) and harmful physical agents (i.e. noise, radiation, vibration etc.); and the treatment of work related injuries. Two major specialties comprise the OH program: Industrial Hygiene (IH) and Occupational Medicine (i.e. Medical Surveillance Program). These two specialties working together form the basis for an active Occupational and Environmental Health (OEH) program. Their integration at the local level provides a valuable tool in identifying, preventing and treating occupational injuries and illnesses. This Chapter, per References (a) through (g), applies to the IH component of the Coast Guard OH program. See Reference (d) for details regarding the Occupational Medicine component of OH.
2. Application. IH personnel anticipate, recognize, evaluate, and develop recommendations to control potential health hazards and unacceptable occupational exposures. Workplace exposure assessment requires a sound, logical strategy to accomplish the following five goals:
 - a. Assess potential health risks faced by Coast Guard personnel by understanding their exposure.
 - b. Control unacceptable exposures.
 - c. Establish and document a historical record of exposure levels for Coast Guard personnel and communicate exposure monitoring results.
 - d. Ensure and demonstrate compliance with safety and health exposure criteria.

- e. Provide a basis for medical surveillance examinations.

B. Program Requirements.

1. 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 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) A list of hazardous materials (HAZMAT) used in the work place that presents significant risk and description of use. Contact the regional HSWL SC (se) SEH Detachment for assistance.
 - (3) A list 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) A description of existing controls.
 - b. Exposure Assessment. Define exposure groups by using/interpreting information gathered from the basic workplace characterization, historical sampling data, HRAs, 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. Report and record assessment results. 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 reassessments and provide written reports for each serviced activity. HSWL SC (se) can specify more frequent evaluations for the specific workspaces or processes depending upon the IH exposure assessment.
2. Monitor Occupational Exposure Limits (OELs). OELs are values which represent the level (concentration) to which it is believed a worker can be exposed to from day to day over 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 frequently to reflect new data. Like PELs, TLVs are expressed as an 8-hour TWA unless otherwise noted; however, they are typically more stringent than PELs. TLVs are consensus standards and are not statutory (see Chapter 2).
 - 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 and like TLVs are not statutory. See Reference (c) for RELs.
3. 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 by Section B.2 of this Chapter.
4. 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 above 50% of the OEL for over 30 days per calendar year must be enrolled in the medical surveillance program. For more information regarding OMSEP refer to Reference (d).
5. Retention and Access to 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.
 - 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 by an employee or designated representative to access employee record 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).

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.
2. Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC). Commanding Officer, Health, Safety, Work-Life Service Center (HSWL SC) must:
 - a. Conduct initial and periodic comprehensive IH survey of each work place to obtain information defined in Paragraph B.1. Provide an exposure assessment report to surveyed Units.
 - b. Forward individual exposure monitoring information to cognizant medical clinic for review and placement into the individual's medical record.
 - c. Notify members who are directly monitored of the sampling results.
 - d. Ensure that survey, evaluation and sampling records are maintained as required under Paragraph B.5.
 - e. Provide other consultative OH support, as requested by unit commanders to meet the requirements of this Manual.
 - f. Maintain documentation on:
 - (1) Work place basic characterization (IH Surveys)
 - (2) Exposure profiles
 - (3) Exposure judgments and findings
 - (4) Health hazard controls
 - (5) Recommendations
 - (6) Reassessment frequency
 - g. 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 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 IH must use professional judgment to determine the frequency of monitoring.
3. Sector Commanders. Sector Commanders must:
- a. Ensure subordinate units comply with IH program requirements.
 - b. Support completion of IH surveys.
4. 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. Reevaluate work places following any changes that could affect exposures. Units must establish procedures to ensure that HSWL SC (se) is notified of any such changes.
 - c. Commanding Officers (COs) of Coast Guard Yard, Aviation Logistics Center (ALC), Strike Teams (i.e. units with resident IH) must supplement HSWL SC (se) programs by continued operation of their exposure monitoring programs.
5. Supervisors. Supervisors must:
- a. Ensure that all chemical, physical and biological hazards in the workspace are indentified 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.
6. Employees. Employees must:
- a. Be aware of 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 personal protective equipment when required due to documented, chronic exposure to harmful agents.

CHAPTER 27 LEAD HAZARD CONTROL PROGRAM

References:

- (a) Title 29 CFR § 1910.1025, “Lead (as amended)”
- (b) Title 29 CFR § 1926.62, “Lead in Construction”
- (c) Title 29 CFR § 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,
<http://www.wbdg.org/ccb/DoD/UFGS/UFGS%2002%2083%2013.00%2020.pdf>
- (h) UFGS-02 82 33.13 20, Removal/Control and Disposal of Paint with Lead, Feb 2010,
<http://www.wbdg.org/ccb/DoD/UFGS/UFGS%2002%2082%2033.13%2020.pdf>
- (i) Title 29 CFR § 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 CFR § 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) Title 40 CFR 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 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 which 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.d, 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 ($\mu\text{g}/\text{m}^3$) of air.
- b. Action Level (AL). The AL for an 8-hour TWA exposure to airborne lead is 30 $\mu\text{g}/\text{m}^3$ (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 ($\mu\text{g}/\text{ft}^2$) per Title 40 CFR § 745.227.
 - (2) In non-hygienic areas such as ship bilges; firing ranges, armory, etc, the level of acceptable decontamination is 400 $\mu\text{g}/\text{ft}^2$.
- 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.3.e and f 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 µg/m³ 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 A.5.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 Office (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 members 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 establish procedures to maintain work surfaces as free of lead dust as is practicable but not to exceed the limits in Paragraph B.3. 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 must 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.8.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 design, construct and 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 which 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 (pitot tubes, manometers etc) 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:

CAUTION
CLOTHING CONTAMINATED WITH LEAD
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. 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.8.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 medical surveillance program, when industrial hygiene surveillance results indicate that they perform work or are likely to be in the vicinity of an operation which 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.11 must receive a pre-placement evaluation as described in Reference (I) 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 (I).
 - c. Follow-up Blood Lead Monitoring. Follow-up blood sampling tests must be based on criteria established in Chapter 12 of Reference (I).
 - d. Medical Removal/Individual Reassignment.
 - (1) Units must reassign pregnant women exposed to lead at or above 30 $\mu\text{g}/\text{m}^3$ or who have a blood lead level of 5 $\mu\text{g}/100\text{g}$ 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 (I).
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 $\mu\text{g}/\text{m}^3$ 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. 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, Heath Safety Work-Life Service Center, Safety and Environmental Health Division (HSWL SC (se)). Chief, Heath Safety Work-Life Service Center, Safety and Environmental Health Division (HSWL SC (se)) must:
 - a. Provide professional 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. Commanding Officers/Officers-in-Charge (COs/OICs). Commanding Officers/Officers-in-Charge (COs/OICs) must:
 - a. Coordinate with HSWL SC (se) to develop and implement a lead hazard control program that incorporates all program elements in this Chapter.
 - b. Notify and request HSWL SC (se) assistance in identifying potential lead hazards.
 - c. Ensure that all required training courses are successfully completed.
 - 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.

6. 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.
7. Employees. Employees must carry out duties in full compliance with this Chapter and applicable regulations as listed in References (a) through (m).

ACRONYM LIST

Acronym	Description
AABA	Ambient Air Breathing Apparatus
AC	Aircraft Commander
ACCB	Aircraft Configuration Control Board
ACGIH	American Conference of Government 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
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
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
AVS01	Accident Investigation Specialist, competency code
AVS02	Flight Safety Officer, competency code

Acronym	Description
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
CBR	Chemical, Biological, Radiological
CBRNE	Chemical Biological, Radiological, Nuclear, and High-Yield Explosives
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
CFR	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
DASHO	Designated Agency Safety and Health Official

Acronym	Description
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
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
FAA	Federal Aviation Administration
FACOSH	Federal Advisory Council on Occupational Safety and Health
FC-T	Force Readiness Command – Training Division
FDA	Food and Drug Administration
FDAU	Flight Data Acquisition Unit
FDR	Flight Data Recorder

Acronym	Description
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	Food Services Officer
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
HIPAA	Health Insurance Portability and Accountability Act
HIPO	High Potential (for loss)
HMIS	Housing Management Information System
HMT	Hazardous Materials Technician

Acronym	Description
HR	Human Resources
HRA	Health Risk Assessments
HS	Health Services Technician
HSI	Human Systems Integration
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
ICS	Incident Command System
IDLH	Immediately Dangerous to Life or Health
IES	Illuminating Engineering Society
IAA	Interagency Agreement
IACS	International Association of Classification Societies
IAMSAR	International Aeronautical and Maritime Search and Rescue
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	Low Pressure
MAA	Mutual Aid Agreements
MAAT	Mishap Analysis Assistance Team
MAB	Mishap Analysis Board
MAR	Mishap Analysis Report
MHE	Material Handling Equipment
MI	Marine Inspector

Acronym	Description
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
MSD	Musculoskeletal Disorder
MSHA	Mine Safety Health Administration
MVSC	Motor Vehicle Safety Coordinator
NARA	National Archives and Records Administration
NATO	North Atlantic Treaty Organization
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
OBA	Oxygen Breathing Apparatus
OCMI	Officers in Charge Marine Inspection
OEH	Occupational and Environmental Health
OEL	Occupational Exposure Limit
OH	Occupational Health

Acronym	Description
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
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
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

Acronym	Description
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	Shore 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
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
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

Acronym	Description
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
WMSD	Work-related Musculoskeletal Disorder
XO	Executive Officer
XPO	Executive Petty Officer
XRF	X-Ray Fluorescence
ZPP	Zinc Protoporphyrin

