Department of
Homeland Security
United States
Coast Guard

COAST GUARD OCCUPATIONAL MEDICINE MANUAL

COMDTINST M6260.32
JUNE 2018

U.S. Department of Homeland Security
United States Coast Guard

Commandant
United States Coast Guard

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COMMANDANT INSTRUCTION M6260.32

Subj: COAST GUARD OCCUPATIONAL MEDICINE MANUAL

Ref (a) Coast Guard Medical Manual, COMDTINST M6000.1 (series)
(b) Occupational Safety and Health Act of 1970
(c) Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matter, 29 CFR 1960
(d) Occupational Safety and Health Programs for Federal Employees, Executive Order 12196
(e) Coast Guard Civil Rights Manual, COMDTINST M5350.4 (series)
(f) Radiation Health Protection Manual, NAVMED P-5055
(g) Standards for Protection Against Radiation, 10 CFR 20, Subpart C – Occupational Dose Limits
(h) Safety and Environmental Health Manual, COMDTINST M5100.47 (series)
(i) Access to Employee Exposure and Medical Records Standard, 29 CFR 1910.1020
(j) Disposition of Health Records, COMDTINST 6150.4 (series)
(k) Benzene Standard, 29 CFR 1910.1028
(l) Cadmium Standard, 29 CFR 1910.1027
(m) Provisional Blood Lead Guidelines for Occupational Monitoring of Lead Exposure in the DoD, U.S. Army Public Health Command
(n) Occupational Medical Examinations and Surveillance Manual, DoD 6055.05-M.
(o) Joint Theater Trauma System Clinical Practice Guideline: Aural Blast Injury/Acoustic Trauma and Hearing loss, Department of Defense
(p) Asbestos Construction Worker Standard, 29 CFR 1926.1101
(q) Asbestos Shipyard Standard, 29 CFR 1915.1001
(r) Asbestos General Industry Standard 29 CFR 1910.1001
(s) Medical Surveillance Procedures Manual and Medical Matrix, Edition 12, NMCPHC-TM OM 6260
(t) Bloodborne Pathogen Standard, 29 CFR 1910.1030

DISTRIBUTION – SDL No. 168

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NON-STANDARD DISTRIBUTION:

(u) Infection Prevention and Control Program for Coast Guard Health Care Facilities and Workers, COMDTINST 6220.4 (series)
(v) Hexavalent Chromium Standard, 29 CFR 1910.1026
(w) Hazardous Waste Operations and Emergency Response Standard, 29 CFR 1910.1028
(x) Policy for Countering Weapons of Mass Destruction, COMDTINST 3400.5 (series) (FOUO)
(y) Control of Hazards to Health from Laser Radiation, Technical Bulletin (TB), MED 524, United States Army
(z) Lead Standard, 29 CFR 1910.1025
(aa) Occupational Noise Exposure Standard, 29 CFR 1910.95
(bb) Hearing Conservation Program, DoD Instruction 6055.12
(cc) Respiratory Protection Standard, 29 CFR 1910.34
(dd) National Emphasis Program – Occupational Exposure to Isocyanates, Directive CPL 03-00-017, Occupational Safety and Health Administration
(ee) Medical Standards, 5 CFR 339.202
(ff) Physical Requirements, 5 CFR 339.203
(gg) Delegation for Human Capital and Human Resources, Department of Homeland Security, DHS Delegation Number 03000, June 5, 2012
(hh) Child Development Services Manual, COMDTINST M1754.15 (series)
(ii) Food Safety and Sanitation program (FS&SP) Tactics, Techniques, and Procedures (TTP), CGTTP 4-11.12 A
(jj) Physical Qualifications and Examinations, 49 CFR 391.41-49
(kk) Schedules of Controlled Substances, 21 CFR 1308
(ll) Controlled Substances and Alcohol Use and Testing, Definitions, 49 CFR 382.107
(mm) Storage and Materials Handling, DoD Directive 4145-19R-1
(nn) Standard on Comprehensive Occupational Medical Program for Fire Departments, NFPA 1582
(oo) Immunizations and Chemoprophylaxis for the Prevention of Infectious Diseases, COMDTINST M6230.4 (series)
(pp) Technical Implementation Guide 1582-13 for NFPA 1582, Standard on Comprehensive Occupational Medical Program for Fire Departments, United States Air Force
(qq) Deployment-Limiting Medical Conditions for Service Members and DoD Civilian Employees, DoD Instruction 6490.07
(rr) The Rehabilitation Act of 1973, 29 USC Section 701
(ss) Foreign Affairs Manual, United States Department of State
(tt) Foreign Clearance Manual, DoD M4500.54-M (series)
(uu) Federal Employees' Compensation Act, 5 USC Chapter 81
(vv) Workers' Compensation Policies and Procedures, COMDTINST M12810.2 (series)
(ww) Recording and Reporting Occupational Injuries and Illnesses Standard, 29 CFR 1904

1. PURPOSE. This Manual establishes policy, assigns responsibilities, and provides guidelines regarding the Coast Guard Occupational Medicine Program. It consolidates, expands on, and updates information for Coast Guard members (Active Duty and Selected Reserve), civilians, and

Auxiliary personnel contained in Chapter 12 of the Coast Guard Medical Manual, COMDTINST M6000.1 (series) and Coast Guard Civilian Employee Health Care and Occupational Health Program Manual, COMDTINST M12792.3 (series).

2. ACTION. All Coast Guard unit commanders, commanding officers, officers-in-charge, deputy/assistant commanders, and chief of headquarters staff elements shall comply with the provisions of this Manual. Internet release is authorized.

3. DIRECTIVES AFFECTED. Contents of Chapter 12 in the Coast Guard Medical Manual, COMDTINST M6000.1 (series) have been moved to this Manual. Chapter 12 has been replaced with a statement to refer to this Manual. The Civilian Employee Health Care and Occupational Health Program, COMDTINST M12792.3A is hereby canceled.

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

5. 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, Commandant (CG-47). This Manual is categorically excluded under current Department of Homeland Security (DHS) categorical exclusion (CATEX) A3 from further environmental analysis in accordance with "Implementation of the National Environmental Policy Act (NEPA), DHS Instruction Manual 023-01-001-01 (series).

   b. This Manual 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 policy in this Manual must be individually evaluated for compliance with the National Environmental Policy Act (NEPA), Department of Homeland Security (DHS) and Coast Guard NEPA policy, and compliance with all other applicable environmental mandates.

6. DISTRIBUTION. No paper distribution will be made of this Manual. An electronic version will be located on the CG-612 CG Portal websites.
   Internet: http://www.dcms.uscg.mil/directives/; and
   CG Portal: http://cgportal2.uscg.mil/library/SitePages/Home.aspx.

7. RECORDS MANAGEMENT CONSIDERATIONS. This Manual has been thoroughly reviewed during the directives clearance process, and it has been determined there are further records scheduling requirements, in accordance with Federal Records Act, 44 U.S.C. 3101 et seq., NARA requirements, and Information and Life Cycle Management Manual, COMDTINST M5212.12 (series). This policy creates significant or substantial change to

existing records management requirements.

8. PRIVACY COMPLIANCE. When completed, many forms identified in this Manual contain Sensitive Personally Identifiable Information (SPII). The Privacy Act of 1974, 5 U.S.C. 522a mandates the agencies establish administrative, technical, and physical safeguards to ensure the integrity of records maintained on individuals. The Privacy Act also requires the protection against any anticipated threats which could result in substantial harm, embarrassment or compromise to an individual. In order to maintain the public's trust and prevent security breaches, the Coast Guard has a duty to safeguard all types of Personally Identifiable Information (PII) in its possession. Unintended disclosure or compromise of an individual's PII constitutes a Privacy Incident and must be reported in accordance with Privacy Incident Response, Notification and Reporting Procedures for Personally Identifiable Information (PII), COMDTINST 5260.5 (series).

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

10. REQUEST FOR CHANGES. Units and individuals may recommend changes by writing via the chain of command to: Commandant (CG-1121); U. S. Coast Guard Stop 7907; 2703 Martin L. King Jr Ave SE; Washington, DC 20593-7907.

ERICA G. SCHWARTZ /s/
Rear Admiral, U.S. Public Health Service
Director, Health, Safety and Work-Life

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

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Exposure Examination Checklists and Supporting Examination Material

Civilian Employee Examination Checklists and Self-Assessment Forms

CHAPTER 1. INTRODUCTION

A. Types of Occupational Medical Examinations. There are several types of occupational medical examinations that are required by the Coast Guard. These examination types are summarized below. Additional information regarding each examination type is provided in Chapters 2 and 3 of this Manual.

1. Medical Clearance Examinations. These examinations are performed before placement (preplacement/new hire examinations) and periodically to determine whether a worker will be able to safely perform job duties. Coast Guard military applicants must complete an entry medical examination to show that they meet the required medical standards for appointment and enlistment as governed by Reference (a). Coast Guard civilian employees in specific job categories may be required to meet a medical standard and others may need to meet general medical requirements. In the case of civilian employees the examination may be combined with occupational medical surveillance examinations.

   a. Military – governed by Reference (a)

   b. Civilian - The Occupational Medical History and Examination, Form CG-6010E, is to be used for medical clearance examinations for Coast Guard civilian applicants and employees. If the employee lives or works within 50 miles of a Coast Guard clinic, the examination should be performed there. Otherwise, the examination may be completed by a personal physician or outside healthcare provider (HCP). Examinations performed by a non-Coast Guard HCP must be subsequently reviewed by the cognizant Coast Guard Medical Officer or the Coast Guard Headquarters Occupational Medicine Physician (or his/her designee), depending on the job position. Job positions with more complex medical standards have been designated to require medical clearance by the Coast Guard Headquarters Occupational Medicine Physician (or his/her designee) to ensure the consistent application of the respective medical standard. Job positions within this category include firefighters and Coast Guard Investigative Service (CGIS) workers. Additional information is provided in Chapter 3 of this Manual.

2. Medical Certification Examinations. Medical certification examinations are used to determine if an individual meets specific federal medical fitness standards, such as those promulgated by the Federal Aviation Administration (FAA) for aviators and Department of Transportation (DOT) for commercial motor vehicle drivers. Additional information is provided in Chapter 3 of this Manual.

3. Medical Surveillance Examinations. Medical surveillance examinations provide baseline, periodic, end of exposure, and end of employment assessments as well as assessments for an acute exposure or the development of exposure-related symptoms. Clinical measurements to detect clinical abnormalities possibly due to work-related exposure are usually included. If an adverse health effect or over-exposure is detected early, cessation of future exposure and medical intervention may be able to prevent or limit the progression of the disease. References (b), (c), and (d) require many of these medical surveillance examinations. If possible, medical surveillance examinations should be performed concurrently with medical certification and medical clearance examinations and Periodic Health Assessments (PHA). Coast Guard members, civilians and Auxiliary personnel are to be included in all applicable medical

surveillance programs. Contractors performing work for the Coast Guard are responsible for providing medical surveillance for their employees as required by the Occupational Safety and Health Administration (OSHA). Additional information is provided in Chapter 2 of this Manual.

4. Deployment Clearance Evaluations. Pre-deployment medical clearance is required for Coast Guard members as per Reference (a). Additional information is provided in Chapter 5 of this Manual.

B. Medical Review of Occupational Medical Examinations. Civilian personnel and Coast Guard members occupational medical examinations that are performed by a civilian provider, whether for medical surveillance or for medical clearance must be reviewed by either the cognizant Coast Guard Medical Officer or by the Coast Guard Headquarters Occupational Medicine Physician (or his/her designee). Information on when review is required by the Coast Guard Headquarters Occupational Medicine Physician (or his/her designee) is provided in Chapter 1-A-1-b of this Manual.

C. Civilian Occupational Injuries and Illnesses. The Federal Employees' Compensation Act (FECA) provides a comprehensive workers' compensation program which pays compensation for disability or death of a federal employee resulting from personal injury sustained while in the performance of duty. Benefits include wage loss compensation for total or partial disability, schedule awards for permanent loss or loss of use of specified members of the body, related medical costs and vocational rehabilitation. Additional information is provided in Chapter 6 of this Manual.

D. Civilian Reasonable Accommodation. Federal agencies are required to provide reasonable accommodation for employees with disabilities. These disabilities include temporary and permanent mental and physical impairments that substantially limits one or more major life activities, a history of having such an impairment, or being regarded as having such an impairment. Additional information is provided in Chapter 5 of reference (e).

E. Civilian Medical Waivers. If an employee is not medically cleared for their job position by a Coast Guard Medical Officer or the Coast Guard Headquarters Occupational Medicine Physician (or his/her designee), Human Resources in concert with the local command may issue the employee a medical waiver after evaluating the medical deficiencies and the specific worksite requirements.

F. Civilian Medical Preauthorization Process for Outside Medical Services.

1. Civilian medical clearance examinations (preplacement/periodic), medical surveillance examinations, and pre-deployment examinations should all be completed at a Coast Guard Clinic if the employee lives or works within 50 miles of the clinic; otherwise the examination may be completed by an outside HCP. All required laboratory tests, chest x-rays, and immunizations must be obtained from civilian sources.
2. Except for medical examinations performed at a Coast Guard clinic, all medical testing and immunizations will be paid by the Coast Guard with AFC-08 funds only if an individual has been preauthorized as noted below.
3. For preauthorization, the employee's supervisor must confirm that the medical services are not available at a Coast Guard clinic and then draft a Memorandum for Occupational Health Related Service Approval for Civilian Employee including the estimated cost. The Memorandum is to

be sent to the cognizant Regional Practice Manager for endorsement and returned to the employee. The employee must be advised to provide the Memorandum to the outside HCP or clinic at the time of the examination or medical test.

4. The authorization process for medical care associated with a Workers' Compensation claim is outlined in Chapter 6-C.

CHAPTER 2. OCCUPATIONAL MEDICAL SURVEILLANCE AND EVALUATION PROGRAM (OMSEP)

A. General Requirements.

1. Description.

a. Introduction. The work environment and occupational activities inherent to Coast Guard missions can expose personnel to health hazards with the potential for disease or injury. Health hazard exposures include chemicals, particulates, and physical and biological agents. The Occupational Medical Surveillance and Evaluation Program (OMSEP) is designed to identify work-related diseases or conditions at a stage when modifying these exposures or providing medical intervention could potentially arrest disease progression or prevent recurrences. This is accomplished through identifying pre-existing health conditions, providing risk-specific periodic screenings, and monitoring clinical laboratory tests and biologic functions that may reflect work-related environmental exposures. All OMSEP enrollees receive baseline, periodic, end of exposure, end of employment and acute exposure medical evaluations that meet OSHA requirements for specific health hazard exposures. A personnel tracking database contains the employee's name, billet or occupation code, applicable examination protocols, and dates for all completed medical surveillance examinations. Information in the database as well as OMSEP-related medical records must be maintained for the duration of an individual's employment plus an additional 30 years.

b. Roles and Responsibilities. Roles and responsibilities for OMSEP are listed below.

(1) Commandant (CG-112) (Chief, Office of Health Services). Commandant (CG-112) is the final authority on decisions for any OMSEP related issues.

(2) Commandant (CG-1121) (Chief, Operational Medicine). Commandant (CG-1121) is responsible for planning, development of occupational health policy.

(3) Commanding Officers. Commanding Officers are responsible for implementing Safety and Environmental Health directives. This includes appointing an Assistant Safety Officer/Manager to assist the unit Executive Officer/Executive Petty Officer (XO/XPO) in implementing the unit's Safety and Environmental Health program; appointing a unit OMSEP Coordinator, unit Respiratory Protection Coordinator, and unit Asbestos Management Coordinator; and investigating and reporting command mishaps.

(4) Units/Commands. Each unit must appoint a unit OMSEP Coordinator who usually is also the unit Assistant Safety Officer/Manager, the Safety and Occupational Health Coordinator, or the Independent Duty Health Services Technician (IDHS).

(5) Unit OMSEP Coordinator. The unit OMSEP Coordinator is responsible for requesting enrollment of members into OMSEP, ensuring that the currently used Medical Readiness database (or other electronic tracking database) contains updated information on OMSEP enrollees, providing the examining Medical Officer/Outside HCP with all required forms and exposure checklists, ensuring OMSEP examinations are completed in a timely

fashion, and ensuring all available exposure data is available to the examining Medical Officer/Outside HCP at the time of the OMSEP examination. The unit OMSEP Coordinator is also responsible for ensuring the privacy, confidentiality and security of the OMSEP records and reports.

(6) Safety and Environmental Health Officers (SEHOs). SEHOs are required to review all requested OMSEP enrollments submitted by unit OMSEP Coordinators and to either approve or disapprove these enrollments. Disapprovals need to be explained to the requesting unit. To substantiate enrollments, SEHOs are required to conduct and update quantitative and/or qualitative industrial hygiene (IH) assessments of unit workplace environments. Worksite assessments are to be provided to Coast Guard clinics for insertion in the Service Treatment Record (STR)/Occupational Health Treatment Record (OHTR) of affected employees. SEHOs are also required to provide training and day-to-day consultation with their unit OMSEP Coordinators on enrollment criteria and reporting requirements.

(7) Medical Officers and Outside HCPs. As defined in Reference (a), Medical Officers include physicians, physician assistants, and nurse practitioners who are members of the Coast Guard or Public Health Service detailed to the Coast Guard, and civilian medical practitioners (physicians, physician assistants, and nurse practitioners who are under contract to the Coast Guard or are Government Service employees) assigned to a Coast Guard medical treatment facility. Outside HCPs are defined as physicians, physician assistants and nurse practitioners practicing outside of a Coast Guard clinic. Medical Officers/HCPs are responsible for following clinical functions:

(a) Medical Diagnosis. The examining Medical Officer/HCP is responsible for explaining and/or following any medical abnormalities through to a resolution. All diagnoses made must be appropriately coded using the most current version of the International Classification of Diseases (ICD). ICD codes must be provided next to the diagnosis on the Occupational Medical History and Examination, Form CG-6010E, and must be reported to the maximum allowable number of digits.

(b) Report Medical Findings to Employee. Information regarding identified abnormal medical tests results or abnormal physical examination findings must be provided to the employee following the medical examination using the Summary Report, Form CG-6010C. A copy of this form is to be retained in the STR/OHTR.

(c) Written Opinion.

[1] The examining Medical Officer/HCP must include the following information in writing as part of the record of each examination.

- An opinion as to whether the employee has a medical condition that places the employee at greater than normal risk of health impairment from further exposure.
- An opinion on recommended work restrictions including use of personal protective equipment (PPE).

- A statement that the employee has been informed about the results of the examination including any medical conditions related to exposures that require further evaluation or treatment.
- Results of biological monitoring tests (such as for lead and cadmium exposures).

[2] The Written Opinion, Form CG-6010B, must be provided to the employee. A copy must be sent to the unit CO and XO/XPO if the employee has a medical condition which increases his/her risk of health impairment from exposure or has a potential work-related injury/illness, or work restrictions or retraining has been recommended. A copy must also be retained in the STR/OHTR.

(8) Health Service Administrators.

(a) Support. Health Service Administrators are responsible for providing administrative assistance on OMSEP related matters. Their support extends to all units, medical providers (military and civilian) and IDHSs within their Area of Responsibility.

(b) OMSEP Report/Worksite Data. Health Service Administrators will interact with unit OMSEP Coordinators within their Area of Responsibility to ensure currency of the roster of enrollees and ensure that work-site information is received by the Medical Officer/HCP prior to the examination. Worksite exposure information and Safety Data Sheets (if applicable) will precede the physical examination to give the Medical Officer/HCP ample time to review.

(c) Physical Examinations/Health Records. The Health Service Administrator is responsible for the following clinic functions in support of OMSEP:

[1] Timely scheduling of physical examinations

[2] Providing qualified Health Service Technicians (HSs) to perform the indicated laboratory and other medical tests

[3] Ensuring proper calibration of equipment

[4] Compliance with quality assurance standards

[5] Proper use and completion of all medical examination forms

[6] Recording date of completed examination and due date for the next examination in the currently used medical readiness database.

(d) Medical Forms. The Health Service Administrator will ensure that the Medical Officer/HCP is provided required information and appropriate medical forms to allow

fulfillment of medical reporting requirements. These forms include the following:

[1] Coast Guard Occupational Medical History and Physical Examination, Form CG-6xxx

[2] Acute Exposure Information, Form CG- 6000-1

[3] Summary Report, Form CG-6010C

[4] Written Opinion, Form CG-6010B

[5] Other exposure-specific forms (e.g. asbestos questionnaire and respirator questionnaire)

(e) Occupational Exposure Information. The Health Service Administrator will ensure that occupational exposure information is inserted into the health record.

[1] Industrial Hygiene Sampling Data

[2] Documentation of Chronic Exposure to Potential Occupational Hazards. Coast Guard military members exposed to a chronic occupational hazard which does not exceed the Coast Guard medical surveillance criteria (described below) may have documentation of this exposure placed into their health record if authorized by the cognizant SEHO. Coast Guard military members can contact their SEHO for additional information.

(9) Agency for Toxic Substances Disease Registry (ATSDR). In the event of an emergency situation with heavy exposure (e.g., fire or chemical spill), 24-hour assistance is available from the ATSDR at the Centers for Disease Control and Prevention. Call (770) 488-7100.

2. Enrollment.

a. Coast Guard Medical Surveillance Criteria. The Coast Guard medical surveillance criteria are the levels of worker exposure to specific chemicals, particulates or physical agents at or above which occupational medical surveillance examinations need to be performed. In the case of asbestos, benzene, cadmium, chromium, lead and noise the Coast Guard medical surveillance criteria reflect exposure levels at which OSHA mandates medical surveillance; and for ionizing radiation the Coast Guard medical surveillance criteria is the United States Navy recommended exposure limit for non-radiation workers (as per Reference (f)). OSHA does not require medical surveillance for respiratory sensitizers and non-benzene solvents but does have exposure limits for some of these. The Coast Guard medical surveillance criteria for these exposures are one-half of their exposure limits. The OSHA Permissible Exposure Limit (PEL), Short-Term Exposure Limits (STEL), Excursion Limits (EL), Ceiling Limits, and Action Limits; National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limit (REL)-Time Weighted Average (TWA), REL-Short Term Exposure Limit (REL-ST); American Conference of Governmental Industrial

Hygienist (ACGIH) Threshold Limit Value (TLV)-TWA, TLV-Short Term Exposure Limit (STEL), and TLV-Ceiling Limit (TLV-C); and the Coast Guard medical surveillance criteria are provided in Table 2-1 below.

Table 2-1. Most Stringent Exposure Limit Standards and Coast Guard Criteria Limits

Exposure	OSHA PEL, STEL, EL, Ceiling Limits NIOSH REL-TWA, REL-ST ACGIH TLV-TWA, TLV-STEL, TLV-C	OSHA Action Limit	Coast Guard Medical Surveillance Criteria
Asbestos (Shipyards/ Construction/ General Industry)	0.1 fiber/cc PEL 1 fiber/cc 30 minute EL	None	0.1 fiber/cc 8-hour TWA or 1 fiber/cc over 30 minutes, or Class I, II, or III work for 30 days/year
Benzene	0.1 ppm REL-TWA 1 ppm REL-ST	0.5 ppm	0.05 ppm 8-hour TWA for 30 days/year; 1 ppm 8-hour TWA for 10 days/year
Cadmium	2 µg/m3 TLV-TWA	2.5 µg/m3	1 µg/m3 8-hour TWA for 30 days/year
Chromium	0.2 µg/m3 hexavalent Cr NIOSH REL	2.5 µg/m3 hexavalent Cr	0.1 µg/m3 8-hour TWA hexavalent Cr for 30 days/year
Lead	50 µg/m3 PEL	30 µg/m3	30 µg/m3 8-hour TWA for 30 days/year
Noise	90 dB PEL; 85 dB TLV; 115 dB 15 min STEL 140 dB (impact noise)	85 db	85 dB 8-hour TWA (one or more days/year) or 140 dB single occurrence per year
Ionizing Radiation (1 rem=10 mSv)*	12.5 mSv per 3 months and 30 mSv/year		5 mSv/year
Respiratory Sensitizers	Methyl isocyanate 0.02 ppm PEL; methylene bisphenyl isocyanate (MDI) 0.005 ppm REL-TWA and 0.02 ceiling limit; Toluene-2,4-disocyanate (TDI) 0.005 ppm STEL, 0.001 ppm TLV-TWA, and 0.02 ppm ceiling limit		0.01 ppm 8-hour TWA for methyl isocyanate; 0.0025 ppm 8-hour TWA for MDI and TDI and 0.01 ppm ceiling limit for MDI and TDI
Mixed Solvents	Methyl isobutyl ketone 20 ppm TLV-TWA, 50 ppm REL-TWA; Methyl n-amyl ketone 20 ppm TLV-TWA; Toluene 50 ppm TLV-TWA and 150 ppm REL-ST; Xylene 100 ppm PEL and 150 ppm TLV-STEL		Methyl isobutyl ketone 10 ppm; Methyl n-amyl ketone 25 ppm; Toluene 10 ppm; Xylene 50 ppm 8-hour TWA

TWA=Time-weight average; dB=decibel; ppm=parts per million; *Recommended exposure limit per Reference (f) is 5 mSv/year for non-radiation workers, 5 mSv for pregnancy term, and 0.5 mSv per any month of pregnancy. Reference (g) requires occupational exposures to be less than or equal to 50 mSv/year which also is the Navy occupational exposure limit for radiation workers. Reference (h) requires individual dosimetry when potential of exposure exceeds 5 mSV.

b. Determination of Occupational Exposure.

(1) An employee generally requires medical surveillance if an exposure or hazardous condition is likely to occur 30 or more calendar days per year. The 30 days of exposure may be non-consecutive. However, exposure only one day per year to occupational noise, 10 days of exposure to high levels of benzene and qualifying yearly exposure to ionizing radiation also requires enrollment. For inclusion into OMSEP, quantitative work-site sampling measurements must meet Coast Guard medical surveillance enrollment criteria. However, in the absence of quantitative measurements, the professional opinion of a Coast Guard industrial hygienist or equivalent who recommends enrollment of an employee or worker group may be used instead.

(2) Coast Guard SEHOs will perform IH unit worksite evaluations. Quantitative sampling, both personal and area, is the definitive means to characterize workplace health hazards. Of these, personal sampling vice area sampling provides a more accurate assessment of a worker's exposure. Qualitative assessments based on expected type, frequency, mode, and duration of hazard exposure may be used temporarily to determine worker exposure until quantitative sampling has been completed.

(3) The competent environmental health authority is considered to be the cognizant SEHO but the authority may be delegated to other recognized and approved personnel with the necessary technical training and abilities.

c. Enrollment Criteria. Recommendations for enrollment are based on specific job assignments and the level of worker exposure. Personnel will be enrolled in OMSEP if either of the following criteria are met:

(1) Personnel are occupationally at risk of exposure to hazardous chemicals, particulates or physical agents at levels documented or reasonably determined to be at or above the Coast Guard medical surveillance criteria level for that hazard without regard to use of PPE. As noted in Chapter 2-A-2-b-1, this level of exposure must generally occur 30 or more days per year.

(2) Personnel are actively engaged in one of the following occupations for 30 or more days per year: resident inspectors, pollution investigators, marine safety (general), port safety (general), vessel inspectors or marine investigators, and firefighters. These workers should be enrolled in the Hazardous Waste Operations and Emergency Response medical surveillance program. Exceptions to enrollment may be made when an IH investigation determines that an individual is not exposed to toxic chemicals or physical hazards or when the unit industrial hygienist or cognizant SEHO recommends enrollment instead in another more appropriate medical surveillance protocol (e.g. benzene).

3. Reporting Requirements.

a. Examination Reports and Questionnaires.

(1) Required Forms. (Note: Medical clearance forms are described in Chapter 3 of this Manual.)

(a) The Occupational Medical History and Examination, Form CG-6010E, is to be used for most OMSEP examinations. Exceptions where this form is NOT required are respirator use clearances based on responses on the respirator questionnaire, hearing conservation examinations, and when only a laboratory test is required.

(b) Asbestos Exposure Forms, Form DD-2493-1 and Form DD-2493-2

(c) Chest Radiograph Classification, Form CDC/NIOSH 2.8 (E)

(d) Hearing Conservation Data Forms: Form DD-2215 and Form DD-2216

(e) Respirator Questionnaire, Form CG-6010F

(f) Acute Exposure Information, Form CG-6000-1, is to be used for all acute exposures.

(g) Summary Report, Form CG-6010C, is to be used to report to the employee any abnormal findings from the medical examination and any recommended medical treatment or evaluations.

(h) Written Opinion, Form CG-6010B, is to be used to report to the CO and XO/XPO all work-related injuries or illnesses and recommended work restrictions.

(2) Record Keeping. OMSEP medical records will be handled in the same manner as other STRs/OHTRs as described in Chapter 4 of Reference (a). The following exceptions apply: all x-ray, laboratory test, medical test, medical forms, and medical examination reports done for OMSEP purposes, as well as the STR cover, shall be clearly labeled "OMSEP." In accordance with Reference (i), all OMSEP medical information must be maintained for the duration of employment plus 30 years. Refer to Reference (j) for further details. All STRs/OHTRs including completed forms and reports for laboratory tests and other medical tests performed at a non-Coast Guard clinic will be forwarded to the assigned health record custodian responsible for the unit where the employee works.

(3) Electronic Tracking Database. Information on OMSEP enrollments will be tracked in an electronic tracking database. At a minimum information will include the member's name, billet or occupation code, the OMSEP protocols enrolled in, and date of examination and due date for the next physical examination for the respective OMSEP protocols. The handling of all data will comply with Privacy Act requirements. The currently used medical readiness database may be used to perform this function. For lead OMSEP enrollments, the dates for the current and next due biomonitoring tests will be entered.

(4) Substitutions. The Occupational Medical History and Examination, Form CG-6010E, may not be substituted with another examination form. If another examination (e.g., flight examination) is anticipated/required at the same time as the OMSEP examination,

all appropriate forms must be completed by the examining Medical Officer/HCP at the time of the examination. Duplicate laboratory tests are not required, so long as all specific tests and procedures required for each exam are completed and reported.

(5) Exposure Data Records. All exposure data from workplace surveys, IH personal or area monitoring, and safety data sheets will be provided by the assigned industrial hygienist/SEHO to the cognizant Coast Guard clinic for insertion into the STR/OHTR as they become available. Per OSHA regulations exposure surveillance data must be maintained and made available to the examining Medical Officer/HCP.

(6) eMisRep. The Coast Guard electronic Mishap Reporting Program is used to report annual numbers of civilian work-related injuries and illnesses as required by OSHA as well as to tract similar injuries and illnesses among Coast Guard military members.

b. Sentinel Occupational Health Event Reporting. The occurrence of a new illness or disease, which is likely associated with an occupational exposure or condition, is considered to be a "sentinel event." Such an event serves as a warning signal that preventive measures may need to be improved. In order to facilitate timely intervention, the occurrence of a new non-infectious occupational illness or disease must be reported directly to the Coast Guard Headquarters Occupational Medicine Physician (or his/her designee). Infectious diseases must be reported as per Chapter 7 of Reference (a).

4. Medical Removal Protection. It is the responsibility of the CO to assure a safe and healthy working environment. The finding of a work-related illness or injury, which could be further exacerbated by continued exposure to a workplace hazard or condition, requires immediate evaluation to determine whether the worker must be at least temporarily be removed from further exposure. A recommendation to remove the member must be made to the unit's CO by the examining Medical Officer/HCP in coordination with the cognizant SEHO.

B. Administrative Procedures.

1. General. All medical examinations and procedures required under OMSEP shall be performed by or under the supervision of a licensed Medical Officer/HCP and an accredited laboratory shall perform all laboratory tests. Timely completion of scheduled examinations is essential in order to promptly identify work-related health hazards and associated health effects. All tests required as part of an OMSEP examination should be completed prior to the physical examination so that results are made available to the Medical Officer/HCP at the time of the physical examination. This requirement may be waived if travel or time costs make separate visits impractical. The Medical Officer/HCP is required to review all medical test results, provide confirmation of review with signature, and explain any abnormalities. An employee with an unexplained examination finding, laboratory abnormality, or abnormal medical test result that might be related to an occupational exposure must be referred to a board-certified Occupational Medicine Physician for further evaluation and work-related recommendations.

2. Examination Types.

   a. Baseline.

      (1) Baseline medical surveillance examinations are required for all employees enrolled in OMSEP prior to exposure and/or employment. The examination is used to assess whether the worker will be able to perform the job without injury to self and to obtain baseline measurements for future comparison. Each baseline examination shall consist of all of the elements specified under the appropriate exposure protocol(s) in Chapter 2-C of this Manual and the associated examination checklists. In the event that the employee is being monitored under more than one exposure protocol, all unique forms shall be completed for each particular examination.

      (2) Laboratory and/or other medical tests are required for most exposure protocols. Members being monitored under more than one exposure protocol which require the same medical test(s) (e.g., complete blood cell count, urinalysis, chemistry panel) should have the test(s) performed only once during a particular examination.

      (3) In the event of scheduling delays which prevent the completion of the examination prior to exposure, all necessary laboratory tests specified under the appropriate exposure protocol(s) must be completed prior to exposure. However, the physical examination may be completed at the earliest possible date but not beyond 30 days after the initial date of employment. Longer delays will require temporary removal.

   b. Periodic.

      (1) Periodic examinations unless otherwise stated are to be performed at twelve-month intervals. The interval period may be longer or shorter for some exposure protocols as recommended by the Medical Officer/HCP. Once enrolled in OMSEP, periodic examinations will be performed for the duration of the health hazard exposure. Every effort should be made to realign timing of the periodic examination with the time of the individual's PHA, especially in the case of Selected Reserve Coast Guard Members.

      (2) Laboratory and/or other medical tests are required for most exposure protocols. Members being monitored under more than one exposure protocol which require the same medical test(s) (e.g., complete blood cell count, urinalysis, chemistry panel) should have the test(s) performed only once during a particular examination. The Medical Officer/HCP may perform additional tests as often and as deemed necessary.

   c. Acute Exposure.

      (1) An acute exposure is defined as an unexpected exposure event or release of a hazardous substance. When this occurs, all exposed or potentially exposed employees will receive an acute exposure examination. The requirement applies whether or not the employee exhibits any overt symptoms from the acute exposure.

      (2) The Coast Guard Acute Exposure Information, Form CG-6000-1, will be used to collect and organize information regarding the acute exposure. The completed form will accompany the employee to his/her examination.

(3) If the substance(s) is identified, an examination will be performed following the specific protocol(s) for that substance(s), if one exists in Chapter 2-C. In the event that no specific substance is identified, an examination should be directed according to the "Hazardous Waste" examination protocol and presenting symptoms.

(4) All Hazardous Materials (HAZMAT) response personnel with a documented exposure event, including Coast Guard Strike Team members and firefighters, must complete an Acute Exposure Information, Form CG-6000-1, at the end of each HAZMAT response.

(5) When completing the Acute Exposure Information, Form CG 6000-1, special attention must be provided to the type, duration and degree of toxicity of the agent(s) encountered as well as the route of exposure (inhalation, dermal/mucosal absorption, ingestion). The type of PPE utilized, type of respirator (if any) used, and protective clothing worn will also be noted. Based on this information, other information regarding the exposure event, symptoms experienced by the individual, and applicable exposure protocols, the medical provider will choose required components for the medical examination.

d. Exit. Exit examinations are designed to assess pertinent aspects of the worker's health when exposure to a specific hazard has ceased (end of exposure) or the worker leaves employment with the Coast Guard (end of employment). Results may be beneficial in assessing the relationship of any future medical problem to an exposure in the workplace. Exit physical examinations must be completed within 30 days of the last day of exposure or employment. An exit examination is not required if the last periodic examination or baseline examination was performed within the prior 6 months as prescribed by OSHA for cadmium, chromium, and hazardous waste. For asbestos, an exit examination is not required if the previous examination was within 30 days of termination. (No termination examinations are required for herbicides, organophosphates/carbamates, and solvents.)

(1) End of Exposure: End of exposure is defined as when an OMSEP enrollee is assigned to a work area with no further exposure to a specific hazard. The examination will include completion of the Occupational Medical History and Examination, Form CG-6010E, specified laboratory and medical tests and any required consultations and referrals.

(2) End of Employment: End of employment is defined as when an OMSEP enrollee leaves employment with the Coast Guard. The examination will include completion of the Occupational Medical History and Examination, Form CG-6010E, specified laboratory and medical tests and any required consultations and referrals. At the time of the examination the employee's permanent home of record and phone number must be secured for notification of any test abnormalities.

e. Timing of Next Examination. The default interval between examinations is 12 months for all protocols. Respirator use, ionizing radiation exposure, lead exposure, and cadmium exposure may require a different interval period between examinations. In all cases, a Medical Officer/HCP may recommend a shorter interval than the default period, if such is medically indicated for an individual worker. Any recommendation on the timing of the

next examination should be included as part of the Medical Officer/HCP's written opinion and reflected in an electronic tracking database. (The currently used Medical Readiness database may be used as the electronic tracking database.)

3. Use of OMSEP Forms.

   a. Occupational Medical History and Examination, Form CG-6010E. This form must be completed for most OMSEP medical examinations (baseline, periodic, end of exposure, end of employment and acute exposure). The form is not required for the occupational noise, bloodborne pathogen, tuberculosis, and respirator use protocols and for medical surveillance examinations that only require blood tests (such as some periodic lead, cadmium, and pesticide OMSEP evaluations).

   b. Respirator Questionnaire, Form CG-6010F. This questionnaire is derived from the OSHA-mandated questionnaire in 29 CFR 1910.134, Appendix C. The questionnaire is to be completed by any civilian worker who is to be issued a respirator or assigned to a task that may require a respirator. Civilian workers must complete this questionnaire initially and then periodically thereafter.

   c. Reference Audiogram, Form DD-2215. This form is used to record initial and revised baseline audiometric test results for an individual worker.

   d. Hearing Conservation Data, Form DD-2216. This form is used to record the results of periodic and follow-up audiometric test results. This form should be preceded by a Reference Audiogram, Form DD-2215 or other audiometric record already on file in the individual's health record.

   e. Summary Report, Form CG-6010C. This form is used by the Medical Officer/HCP to notify the patient of any and all abnormalities found and/or diagnoses made, and recommended medical evaluation. The employee must be provided this information within 30 days of completion of the examination. A copy of the report will be retained in the STR/OHTR.

   f. Written Opinion, Form CG-6010B. This form is used to record the Medical Officer/HCP's opinion as to whether the employee has any detected medical condition which would place the employee at increased risk of health impairment from work involving further exposure to the health hazard; whether the employee has sustained a potential work-related injury or illness; recommendations regarding work limitations including use of PPE such as respirators; and results of the blood lead, blood cadmium, urine cadmium, and urine beta-2 microglobulin test results, if these tests were performed.

   g. Coast Guard Acute Exposure Information, Form CG-6000-1. This form is used to record information regarding any unexpected exposures including a description of the incident, nature of exposure including PPE used, symptoms experienced by the individual worker, and guidance provided by the cognizant SEHO or other subject matter expert.

4. Medical Removal Standards.

   a. Laboratory finding. The following abnormal laboratory findings during an OMSEP examination mandate immediate removal of the employee from further workplace exposure to the hazard, pending resolution of the abnormality or a determination that the abnormality is not due to a workplace exposure. The examining or cognizant Coast Guard Medical Officer should coordinate all medical removal recommendations with the cognizant SEHO before forwarding to the CO and XO/XPO. Benzene and cadmium medical removal standards are prescribed in References (k) and (l), respectively. Lead, organophosphate/carbamate pesticide, noise, and ionizing radiation medical removal standards are prescribed in References (m), (n), (o) and (f), respectively.

      (1) Benzene (any of the following except when confirmatory testing within two weeks does not confirm the results):

         (a) The hemoglobin or hematocrit falls below the laboratory's normal limit and/or these indices show a persistent downward trend from the individual's pre-exposure norms, provided these findings cannot be explained by other means.

         (b) The thrombocyte (platelet) count falls more than 20% below the employee's most recent prior values or falls below the laboratory's normal limit.

         (c) The leukocyte count falls below 4,000 per mm3 or there is an abnormal differential count.

      (2) Lead (any of the following):

         (a) Blood lead level 20 to 29 µg/dL, if a second blood level within 4 weeks is 20 µg/dL or greater. The employee will not be returned to hazardous work until two consecutive blood lead levels one month apart are less than 15 µg/dL.

         (b) Blood lead level 30 µg/dL or greater. The employee will not be returned to hazardous work until two consecutive blood lead levels one month apart are less than 15 µg/dL.

         (c) Pregnant or lactating Coast Guard military members in the lead OMSEP program will be reassigned to another job position where there is no lead exposure. If possible, civilian employees who are pregnant or lactating will likewise be reassigned to job positions with no lead exposure. General medical recommendations are that the blood lead level in pregnant or lactating women should not exceed 5 µg/dL.

      (3) Cadmium (any of the following):

         (a) Urine cadmium level greater than 7 µg/gram creatinine.

         (b) Blood cadmium level greater than 10 µg/liter of whole blood.

(c) Urine beta-2 microglobulin level greater than 750 µg/gram creatinine AND urine cadmium greater than 3 µg/gram creatinine or blood cadmium greater than 5 µg/liter of whole blood.

(4) Organophosphate and carbamate pesticides (any of the following):

(a) Red blood cell cholinesterase level less than 70% of the pre-exposure baseline.

(b) Plasma cholinesterase less than 60% of the pre-exposure baseline.

(c) In both cases, both the red blood cell cholinesterase and the plasma cholinesterase must be 80% or more of the baseline levels before the employee may resume pesticide application work activities.

(5) Noise: Employees who have experienced abrupt hearing loss due to acute acoustic trauma will be removed from hazardous noise areas for a period of time immediately after the injury to facilitate recovery. The duration of removal in most cases will likely be less than week but may be longer as recommended by the Medical Officer/HCP or consulting otolaryngologist.

(6) Ionizing Radiation. Workers will be removed from further exposure to ionizing radiation for the following medical conditions:

(a) Abnormal hematocrit or white blood cell values confirmed with repeat testing, pending a complete evaluation by a Board Certified Hematologist.

(b) Any persistent hematuria (> 3 red blood cells per High Power Field confirmed on a repeat urinalysis), pending a definitive diagnosis.

b. Pregnancy is not a reason for automatic medical removal from the workplace for Coast Guard military members. A decision to remove or restrict a pregnant woman must be based on sound clinical judgment after careful consideration of the workplace environment and the woman's physical capabilities. The prenatal HCP should be asked to recommend when the woman should be removed or restricted from specific environmental exposures and/or job activities. Pregnant Coast Guard civilian employees may request a temporary job reassignment or modification of their job tasks due to occupational exposures and/or physical demands of the job as per Reference (e).

5. Reporting of Examination Results.

a. Medical Officers/HCPs will have 30 days from completion of the examination to meet all responsibilities regarding medical removal recommendations.

b. Contractual providers, IDHSs, and other detached HSs/units must forward all OMSEP examination questions, problems, and any unresolved matters, with accompanying supporting information, to the assigned Coast Guard Medical Officer for review within 15

days of the medical examination (in the case of an abnormal examination finding) or receipt of additional test results or consultation.

C. Medical Examination Protocols.

1. General.

a. The following medical examination protocols follow the same format. Each contains a brief description of the hazard; what workers will be included in medical surveillance; information which must be provided to the examining Medical Officer/HCP; and written requirements on the part of the examining Medical Officer/HCP.

b. Examination checklists include information on possible health effects, medical examination schedules and examination components, specific medical removal requirements, if these exist, and weblinks to applicable OSHA standards for specific exposures. It should be noted that guidance other than OSHA standards may have been used to define medical surveillance requirements, as delineated in Chapter 2-C-(2-17) of this Manual. These checklists must be provided to the examining Medical Officer/HCP at the time of the examination.

c. Multiple protocols for a single individual. In the event that an individual is being monitored on more than one protocol (e.g., lead and benzene), the final examination packet must include all required items for each of the protocols. However, each medical test need only be completed once.

2. Asbestos.

a. Required Medical Surveillance.

(1) The following OSHA Asbestos standards are applicable.

(a) The OSHA asbestos standard for the construction industry (Reference (p)) applies to, but is not limited to, workers who demolish, remove, alter, repair, maintain, install, clean up, transport, dispose of, or store asbestos-containing materials.

(b) The OSHA asbestos standard for shipyards (Reference (q)) applies to workers who demolish, salvage, remove or encapsulate asbestos containing material; workers who construct, alter, repair, or maintain vessels containing asbestos; workers who install asbestos-containing products within vessels; workers who clear up asbestos spills on a vessel; and workers who transport or dispose of asbestos obtained from a vessel.

(c) The OSHA asbestos standard (Reference (r)) applies to occupational exposures to asbestos in all industries except those covered by References (p) and (q) for currently exposed workers.

(2) Guidance on medical surveillance for workers previously enrolled in the Asbestos OMSEP program but who are not currently exposed to asbestos at levels requiring medical surveillance by OSHA was obtained from Reference (s).

(3) Medical surveillance is required for those workers who for a total of 30 or more days per year are exposed at or above 0.1 fiber/cc 8 hour time-weighted average, 1 fiber/cc over 30 minutes, or are engaged in Class I, II, or III work.

(a) Class I asbestos work is defined as activities involving the removal of thermal system insulation and surfacing asbestos-containing material (material containing more than 1% asbestos) and presumed asbestos-containing material (thermal system insulation and surfacing material found in buildings, vessels and vessel sections constructed no later than 1980).

(b) Class II asbestos work is defined as activities involving the removal of asbestos-containing material which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.

(c) Class III asbestos work is defined as repair and maintenance operations where asbestos-containing material, including thermal system insulation and surfacing material which contains asbestos or is presumed to contain asbestos, is likely to be disturbed.

b. Information for Examining Medical Officer/HCP. The following information must be provided to the examining Medical Officer/HCP, by the unit OMSEP Coordinator, prior to the examination:

(1) A description of the affected employee's duties as they relate to the employee's exposure.

(2) The employee's representative exposure level or anticipated exposure level without regard to use of PPE.

(3) A description of any PPE used or to be used including respirators.

(4) Information from previous medical examinations which is not readily available to the examining Medical Officer/HCP.

c. Examination Protocols. Examination protocols differ for currently and previously exposed workers. Details of the examination schedules and examination components are contained in the Examination Checklist for Exposure to Asbestos – Current Exposure (Enclosure 1) and the Examination Checklist for Exposure to Asbestos – Past Exposure (Enclosure 2). The examining Medical Officer/HCP may request any other tests or procedures they deem appropriate, including specialty consultations. Post-employment medical surveillance recommendations, at the employee's own expense, should take into consideration the long latency period for the associated cancers, especially mesothelioma.

d. Specific Written Requirements. The examining Medical Officer/HCP must address the following in writing:

(1) Whether the employee has a potential work-related injury or illness.

(2) A statement that the employee has been informed of the results of the medical examination and of any medical conditions resulting from asbestos exposure that require further evaluation or treatment.

(3) A statement that the employee has been informed of the increased risk of lung cancer attributable to the synergistic effect of smoking and asbestos exposure.

3. Benzene.

a. Required Medical Surveillance.

(1) Enrollment in OMSEP is required for all workers:

(a) who are or may be exposed to benzene at or above 0.05 ppm 8 hour time-weighted average for 30 or more days per year, or

(b) who are or may be exposed to benzene at or above 1ppm 8 hour time-weighted average for 10 or more days per year.

(2) Within the Coast Guard most benzene exposure occurs among marine inspectors and oil spill responders.

(3) An acute exposure examination will be performed if an employee is exposed to benzene in an emergency situation (fire or chemical spill), whether or not they are currently receiving benzene-related medical surveillance examinations. A urine specimen collected at the end of the employee's shift and will be tested for urinary phenol within 72 hours of collection.

(4) Reference (k) is applicable. Guidance pertaining to completion of a medical examination at end of exposure was obtained from Reference (s).

b. Information for Examining Medical Officer/HCP. The following information must be provided to the examining Medical Officer/HCP, by the unit OMSEP Coordinator, prior to the examination:

(1) A description of the affected employee's duties as they relate to the employee's exposure.

(2) The employee's representative exposure level or anticipated exposure level without regard to use of PPE.

(3) A description of any PPE used or to be used including respirators.

(4) Information from previous medical examinations which is not readily available to the examining Medical Officer/HCP.

c. Examination Protocol. Details of the examination schedule and examination components are contained in the Examination Checklist for Exposure to Benzene (Enclosure 3). The examining Medical Officer/HCP may request any other tests or procedures they deem appropriate, including specialty consultations.

d. Specific Written Requirements. The examining Medical Officer/HCP must address the following in writing.

(1) Whether the employee has any detected medical conditions placing the employee at increased risk of health impairment from benzene exposure.

(2) Whether the employee has a potential work-related injury or illness.

(3) Any recommendations regarding work limitations including use of PPE equipment such as respirators.

(4) A statement that the employee has been informed of the results of the medical examination and of any medical conditions resulting from benzene exposure that require further evaluation or treatment.

4. Bloodborne Pathogens.

a. Required Medical Surveillance.

(1) Enrollment in OMSEP is required for all workers who reasonably anticipate contact with bloodborne pathogens as a result of their duties without regard to use of PPE. Jobs in which all workers have potential occupational exposures include medical laboratory personnel, emergency medical technicians, healthcare workers, firefighters, and rescue swimmers.

(2) Reference (t) is applicable. Reference (u) includes approved work practices.

b. Examination Protocol. Details of the examination schedule and examination components are contained in the Examination Checklist for Exposure to Bloodborne Pathogens (Enclosure 4). Each post-exposure examination must follow post-exposure guidelines described by current CDC guidance. Blood Borne Pathogen Exposure Guidelines, Form CG-6201 provides useful a format to serially check for symptoms over a scan of up to one year and a teaching plan.

c. Specific Written Requirements. The following must be addressed in writing by the examining Medical Officer/HCP:

(1) Any medical conditions, which could place the worker at greater than normal risk for the contraction of bloodborne diseases.

(2) The periodicity of the next evaluation and/or referral to the appropriate specialty clinic.

(3) The recommended duty limitations, hygiene care and infectious disease precautions.

5. Cadmium.

a. Required Medical Surveillance.

(1) Enrollment in OMSEP is required for workers who are or may be exposed to cadmium at or above 1 µg/m3 8 hour time-weighted average 30 or more days per year.

(2) Reference (l) is applicable. Inclusion of chest x-ray at end of employment and liver function tests were based on guidance from Reference (s).

b. Information for Examining Medical Officer/HCP. The following information must be provided by the unit OMSEP Coordinator to the examining Medical Officer/HCP prior to the examination:

(1) A description of the affected employee's duties as they relate to the employee's exposure.

(2) The employee's representative exposure level or anticipated exposure level without regard to use of PPE.

(3) A description of any PPE used or to be used including respirators.

(4) Information from previous medical examinations which is not readily available to the examining Medical Officer/HCP.

c. Examination Protocol. Details of the examination schedule and examination components are contained in the Examination Checklist for Exposure to Cadmium (Enclosure 5). The examining Medical Officer/HCP may request any other tests or procedures they deem appropriate.

d. Specific Written Requirements. The examining Medical Officer/HCP must address the following in writing:

(1) Whether the employee has any detected medical conditions placing the employee at increased risk of health impairment from cadmium exposure.

(2) Whether the employee has a potential work-related injury or illness.

(3) Any recommendations regarding work limitations including use of PPE such as respirators.

(4) Results of urine cadmium, blood cadmium, and urine beta-2 microglobulin tests.

(5) A statement that the employee has been informed of the results of the medical examination and of any medical conditions resulting from cadmium exposure that require further evaluation or treatment.

6. Chromium Compounds.

a. Required Medical Surveillance.

(1) Enrollment in OMSEP is required for all personnel who are or may be exposed to hexavalent chromium at or above 0.1 µg/m3 8 hour time-weighted average for 30 or more days per year. Workers typically included are painters and blasters.

(2) Reference (v) is applicable. Guidance pertaining to chest x-ray and spirometry testing was obtained from Reference (s).

b. Information for Examining Medical Officer/HCP. The following information must be provided by the unit OMSEP Coordinator to the examining Medical Officer/HCP prior to the examination:

(1) A description of the affected employee's duties as they relate to the employee's exposure.

(2) The employee's representative exposure level or anticipated exposure level without regard to use of PPE.

(3) A description of any PPE used or to be used including respirators.

(4) Information from previous medical examinations which is not readily available to the examining Medical Officer/HCP.

c. Examination Protocol. Details of the examination schedule and examination components are contained in the Examination Checklist for Exposure to Chromium (Hexavalent) (Enclosure 6). The examining Medical Officer/HCP may request any other tests or procedures they deem appropriate.

d. Specific Written Requirements. The following must be addressed in writing by the examining Medical Officer/HCP:

(1) Whether the employee has any detected medical conditions placing the employee at increased risk of health impairment from exposure to hexavalent chromium.

(2) Whether the employee has a potential work-related injury or illness.

(3) Any recommendations regarding work limitations including use of PPE such as respirators.

(4) A statement that the employee has been informed of the results of the medical examination and of any medical conditions resulting from exposure to hexavalent chromium that require further evaluation or treatment.

7. Hazardous Waste Operations and Emergency Response.

a. Required Medical Surveillance.

(1) Routine medical surveillance is required for employees involved in hazardous waste operations when any of the following conditions are met:

(a) Exposure or potential exposure to hazardous substances or physical agents at or above the Coast Guard medical surveillance criteria level, without regard to the use of respirators or PPE, for 30 or more days per year. This generally includes individuals who work in the following job roles for 30 or more days per year: Hazardous Materials (HAZMAT) Response team members, resident inspectors, pollution investigators, marine safety officer, port safety officer, vessel inspector, marine investigator, Coast Guard Strike Team members, and firefighters.

(b) Members of HAZMAT response teams, including all Coast Guard Strike Team members and firefighters. A HAZMAT team is defined as an organized group of employees, designated by Coast Guard, who are expected to control actual or potential leaks or spills of hazardous substances requiring possible close approach to the substance.

(c) Hazardous waste operation employees who wear a respirator for 30 or more days per year.

(d) Employees who are injured, become ill, or develop signs or symptoms due to possible overexposure involving hazardous substances or physical agents from an emergency response or hazardous waste operation.

(2) In addition to routine surveillance requirements above, if an employee is exposed to a hazardous substance above the Coast Guard medical surveillance criteria level for that exposure hazard in an emergency situation, a urine specimen will be collected for possible chemical testing as soon as possible thereafter, but not later than 24 hrs after the exposure, and an acute exposure examination will be performed within 72 hrs of the exposure.

(3) Reference (w) is applicable. Guidance pertaining to medical examination components was obtained from Reference (s).

b. Information for Examining Medical Officer/HCP. The following information must be provided to the examining Medical Officer/HCP, by the unit OMSEP Coordinator, prior to the examination:

(1) A description of the affected employee's duties as they relate to the employee's exposure.

(2) The employee's representative exposure level or anticipated exposure level without regard to use of PPE.

(3) A description of any PPE used or to be used including respirators.

(4) Information from previous medical examinations which is not readily available to the examining Medical Officer/HCP.

c. Examination Protocol. Details of the examination schedule and examination components are contained in the Examination Checklist for Exposure to Hazardous Waste Operations and Emergency Response (Enclosure 7). The examining Medical Officer/HCP may request any other tests or procedures they deem appropriate.

d. Specific Written Requirements. The examining Medical Officer/HCP must address the following in writing.

(1) Whether the employee has any detected medical conditions placing the employee at increased risk of health impairment from exposure to hazardous waste.

(2) Whether the employee has a potential work-related injury or illness.

(3) Any recommendations regarding work limitations including use of PPE such as respirators.

(4) A statement that the employee has been informed of the results of the medical examination and of any medical conditions resulting from hazardous waste exposure that require further evaluation or treatment.

8. Ionizing Radiation.

a. Unit of Measurement. Radiation measures used in the United States include the following:

(1) Rad (radiation absorbed dose) measures the amount of energy actually absorbed by human tissue.

(2) Roentgen measures the amount of radiation energy in the air (i.e., exposure).

(3) Rem measures the estimated biological effect (i.e., dose equivalent). It takes into account both the dose of radiation and the biological effect for that type of radiation. For beta and gamma radiation, the dose equivalent is the same as the absorbed dose. By contrast, the dose equivalent is larger than the absorbed dose for alpha and neutron radiation, because these types of radiation are more damaging to the human body. One sievert is equal to 100 rems.

b. Coast Guard Medical Surveillance Criteria.

(1) The Coast Guard medical surveillance criteria for ionizing radiation is 5 mSv/year, 5 mSv for the pregnancy term, and 0.5 mSv per any month of pregnancy. Pregnant women are subject to regulations requiring reduced exposure limits as per Reference (g).

(2) Although the potential for ionizing radiation exposure in the Coast Guard is small, it is essential that all workers conform to established safety guidelines, regardless of any lack of suspected exposure. Procedures and guidance for the evaluation of suspected radiological exposures, during many operational activities, can be obtained from Reference (x).

c. Required Medical Surveillance.

(1) Enrollment in OMSEP is required for all radiation workers and workers with accidental exposures in excess of 5 mSv per year.

(a) Radiation workers are those workers who receive exposure to ionizing radiation in the course of their employment or duties, and are identified by their command as being occupationally exposed. Normally, these individuals' routine duties require working directly with sources of ionizing radiation and have a significant potential for exposure. These individuals also normally receive specialized training as part of a specific radiological controls program. Within the Coast Guard these job categories include workers at the Yorktown Training Center, Coast Guard Yard and Coast Guard Aviation Logistics Centers exposed to nondestructive testing equipment using x-rays, x-ray technicians in Coast Guard clinics, and other qualifying workers identified by the cognizant SEHO. Dental technicians are not included.

(b) Field personnel who may be exposed to radiological materials in their capacity as Marine Safety Inspectors, Port-Safety Control Boarding Teams, Container Inspectors and Emergency Response personnel should be enrolled in the Hazardous Waste Operations and Emergency Response Exposure program which includes exposure to ionizing radiation.

(2) There is no applicable OSHA medical surveillance standard. Guidance for medical surveillance was obtained from References (s) and (f).

d. Information for Examining Medical Officer/HCP. The following information must be provided to the examining Medical Officer/HCP by the unit OMSEP Coordinator prior to the examination:

(1) A description of the affected employee’s duties as they relate to the employee’s exposure.

(2) The employee’s representative exposure level or anticipated exposure level without regard to use of PPE.

(3) A description of any PPE used or to be used.

(4) Information from previous medical examinations which is not readily available to the examining Medical Officer/HCP.

e. Examination Protocol. Details of the examination schedule and examination components are contained in the Examination Checklist for Exposure to Ionizing Radiation (Enclosure 8).

f. Specific Written Requirements. The examining Medical Officer/HCP must address the following in writing:

(1) Whether the employee has any detected medical conditions placing the employee at increased risk of health impairment from exposure to ionizing radiation. *At the time of every examination, the examining Medical Officer/HCP must make a medical determination whether it is safe for the worker to continue to be exposed to ionizing radiation.*

(2) Whether the employee has a potential work-related injury or illness.

(3) Any recommendations regarding work limitations including use of PPE such as respirators.

(4) A statement that the employee has been informed of the results of the medical examination and of any medical conditions resulting from exposure to ionizing radiation that require further evaluation or treatment.

g. Medical Treatment of Workers Involved in a Radiological Event. Coast Guard medical facilities are not equipped to a handle large numbers of radiobiological injuries resulting from a nuclear detonation or a radiation dispersal device. Coast Guard Medical Officers will develop a referral, transportation, and consultation plan in coordination with local emergency services, medical specialty providers, and regional DoD Medical Treatment Facilities.

9. Lasers (Class 3B and Class 4).

a. Required Medical Surveillance.

(1) Enrollment in OMSEP is required for workers who routinely work with Class 3B and 4 lasers. Within the Coast Guard this includes workers who perform testing using nondestructive testing equipment at the Coast Guard Training Center Yorktown, Coast Guard Yard, and Coast Guard Aviation Logistics Center and workers who perform routine laser maintenance. All personnel who experience an accidental exposure to Class 3B laser pointing devices directed towards the cockpit by individuals on ground or sea are considered to have had an acute exposure.

(2) There is no applicable OSHA medical surveillance standard. Medical surveillance is based on References (s) and (y).

b. Examination Protocol. Details of the examination schedule and examination components are contained in the Examination Checklist for Exposure to Lasers (Class 3B and Class 4) (Enclosures 9 and10).

c. Specific Written Requirements. The examining Medical Officer/HCP must address the following in writing:

(1) Whether the employee has any detected medical conditions placing the employee at increased risk of health impairment from exposure to lasers.

(2) Whether the employee has a potential work-related injury or illness.

(3) A statement that the employee has been informed of the results of the medical examination and of any medical conditions resulting from exposure to lasers that require further evaluation or treatment.

d. Other Forms of Non-Ionizing Radiation.

(1) Electromagnetic radiation is another form of non-ionizing radiation. Within the Coast Guard electromagnetic radiation is generated during the operation of radar (Radio Detection and Ranging) systems and communication systems in shore facilities and aboard ships.

(2) The following factors significantly reduce human exposures from radiofrequency electromagnetic radiation:

(a) Radar systems send electromagnetic waves in pulses and not continuously. This makes the average power emitted much lower than the peak pulse power.

(b) Radar beams are directional and the energy they generate is contained in very narrow beams.

(c) Energy from a radar beam decreases rapidly with distance from the generating source.

(d) Many radar systems have antennas which are continuously rotating or varying their elevation by a nodding motion, thus constantly changing the direction of the beam.

(3) Health effects due to radiofrequency electromagnetic radiation include over-heating of tissues in the eyes and testes, resulting in cataracts and temporary sterility (decreased sperm count and sperm motility). There is no clear association with cancer. Additionally, radars can cause interference with certain medical devices, such as cardiac pacemakers and hearing aids. Individuals using such devices who work in close proximity to radar systems should contact the manufacturer of their device(s) to

determine the susceptibility of their products to interference from the electromagnetic radiation.

(4) There is no established Coast Guard medical surveillance program for radiofrequency electromagnetic radiation exposure. If a member is over-exposed due to an accidental acute exposure, the cognizant SEHO should discuss this with HSWL SC so that a targeted medical examination can be performed on that individual based on their exposure history.

10. Lead.

a. Exposure Effects. Listed below in Table 2-2 are health effects and associated blood lead levels where health effects first appear.

Table 2-2. Health Effects and Associated Blood Lead Levels

Blood Lead Level Where Health Effect First Occurs	Short-term Risks (exposure less than one year)	Long-term Risks (If not already listed as a short-term risk) (exposure ≥ 1 year)
5-9 µg/dL	Possible spontaneous abortion Possible postnatal developmental delay	Possible hypertension Possible kidney dysfunction
10-19 µg/dL	Reduced birth weight > 15 µg/dL adverse effects on sperm or semen	Hypertension Cardiovascular disease Possible subclinical neurocognitive deficits
20-39 µg/dL	Spontaneous abortion	Possible neurocognitive deficits Possible nonspecific symptoms*
40-79 µg/dL	Neurocognitive deficits Nonspecific symptoms* Sperm abnormalities	Kidney dysfunction/nephropathy Subclinical peripheral neuropathy Anemia Colic Possible gout
≥ 80 µg/dL	Encephalopathy Anemia Colic	Peripheral neuropathy Gout

*headache, fatigue, sleep disturbance, anorexia, constipation, arthralgia, myalgia, and decreased libido

b. Required Medical Surveillance.

(1) Most exposure in the Coast Guard occurs during removal of previously applied lead-based paint coatings, or during environmental recovery of previously discarded lead-acid batteries. Some welders may be exposed to lead fumes. Gunner's mates and Coast Guard members serving as firearm instructors are exposed to lead from fired ammunition.

(2) Enrollment in OMSEP is required for all personnel who are or may be exposed to lead at or above the 30 µg/m3 for 30 or more days per year.

(3) Reference (z) is applicable. A more stringent approach for frequency of blood lead testing directed by recent blood lead levels and blood lead levels requiring medical removal is based on References (m) and (n).

c. Information for Examining Medical Officer/HCP. The following information must be provided to the examining Medical Officer/HCP, by the unit OMSEP Coordinator, prior to the examination:

(1) A description of the affected employee's duties as they relate to the employee's exposure.

(2) The employee's representative exposure level or anticipated exposure level without regard to use of PPE.

(3) A description of any PPE used or to be used including respirators.

(4) Information from previous medical examinations of the employee which is not readily available to the examining Medical Officer/HCP. This includes prior blood lead determinations.

d. Examination Protocol. Details of the examination schedule and examination components are contained in the Examination Checklist for Exposure to Lead (Enclosure 11). The examining Medical Officer/HCP may request any other tests or procedures they deem appropriate (e.g., pregnancy test, and laboratory examination of male fertility).

e. Specific Written Requirements. The examining Medical Officer/HCP must address the following in writing.

(1) Whether the employee has any detected medical conditions placing the employee at increased risk of health impairment from lead exposure.

(2) Whether the employee has a potential work-related injury or illness.

(3) Any recommendations regarding work limitations including use of PPE such as respirators.

(4) Blood lead test results.

(5) A statement that the employee has been informed of the results of the medical examination and of any medical conditions resulting from lead exposure that require further evaluation or treatment.

11. Noise.

a. Required Medical Surveillance.

(1) Enrollment is required in accordance with one of the following criteria:

(a) When the member is exposed to continuous and intermittent noise that has an 8-hour time-weighted average noise level of 85 decibels A-weighted (dBA) or greater on at least one day per calendar year.

(b) When the member is exposed to impulse noise sound pressure level of 140 decibels (dB) peak or greater on at least one day per calendar year.

(2) Baseline audiogram must be obtained within 6 months of exposure to noise levels above 85 dB (TWA), unless a mobile test van is used for audiogram testing, in which case, it must be conducted within 1 year of first exposure to noise above 85 dB (TWA).

(3) Reference (aa) is applicable. Additional guidance was obtained from Reference (bb) to include lower octave band sound pressure levels for the testing environment and a noise free interval prior to retesting for a positive STS hearing loss; Reference (s) for end of exposure audiogram test requirements; and Reference (o), for post-exposure follow up for acoustic trauma.

b. Information for Examining Medical Officer/HCP. The following information must be provided to the examining Medical Officer/HCP, by the unit OMSEP Coordinator, prior to the examination:

(1) A description of the affected employee's duties as they relate to the employee's exposure.

(2) The employee's representative exposure level or anticipated exposure level without regard to use of PPE.

(3) A description of any PPE used or to be used including ear plugs and ear muffs.

(4) Information from previous medical examinations which is not readily available to the examining Medical Officer/HCP.

c. Examination Protocol. Details of the examination schedule and examination components are contained in the Examination Checklist for Occupational Noise (Enclosure 12).

(1) Audiogram and Audiometer Requirements.

(a) Audiograms will be performed by a licensed or certified audiologist, otolaryngologist, or other physician; or by a technician who is certified by the Council for Accreditation in Occupational Hearing Conservation or equivalent military training. (A technician who operates a microprocessor audiometer does not

need to be certified.) A technician who performs audiometric tests shall be responsible to an audiologist, otolaryngologist, or other physician. All problem audiograms will be reviewed by an audiologist, otolaryngologist, or other physician. Standard instructions shall be given to individuals before testing.

(b) Audiograms will be conducted in a testing environment with background octave band sound pressure levels not greater than 40 dB at 500 Hz, 40 dB at 1000 Hz, 47 dB at 2000 Hz, 57 dB at 4000 Hz, and 62 dB at 8000 Hz. The test environment (sound booth, mobile van, or open room location) will be surveyed annually, and whenever the test environment is relocated or there is any significant change in ambient noise level. Testing shall be performed using a Type 1 sound level meter with octave band analyzer.

(c) Audiograms will include pure tone, air conduction, and hearing threshold examinations of each ear at the test frequencies of 500, 1000, 2000, 3000, 4000, and 6000 Hz.

(d) Audiometers will conform to the most current calibration specifications of the American National Standards Institute (ANSI). Audiometers currently in operation must receive annual electroacoustic calibration to maintain certification.

(e) Audiometers will receive a functional operations check before each day's use. For specifications, refer to the OSHA Occupational Noise Exposure standard [29 CFR 1910.95].

(f) Date of last annual audiometer electroacoustical calibration, date of last booth/test environment noise level certification, and date and results of all functional calibration checks will be maintained on the Audiometric Biological Calibration Check, Form CG-5140, or an equivalent form.

(2) Calculation of Significant Threshold Shift (STS). Each annual audiogram will be compared with the baseline audiogram to determine whether an STS has occurred. Transcribe the previous reference audiogram test results onto the "Reference Audiogram" line of the Hearing Conservation Data, Form DD-2216. Subtract the reference levels from the current levels for 2000, 3000, and 4000 Hz and record results onto the line labeled "Difference". Add the three numeric values on the "Difference" line for each ear together and divide by 3. An STS exists if the resulting average hearing loss in either ear is greater than or equal to +10 dB or less than or equal to –10dB. Table 2-3 below illustrates this calculation. Age-correction shall NOT be applied when determining an STS.

Table 2-3. Calculation of a Significant Threshold Shift

Audiogram Type	LEFT			RIGHT		
	2000 Hz	3000 Hz	4000 Hz	2000 Hz	3000 Hz	4000 Hz
Reference	10	10	10	15	15	15
Current	20	25	25	0	5	5
Difference	+10	+15	+15	–15	–10	–10
Sum ÷ 3	+40 ÷ 3 = +13.33 dB			-35 ÷ 3 = –11.67 dB		
Conclusion	Positive STS			Negative STS		

d. Specific Written Requirements. The examining Medical Officer/HCP must address the following in writing.

(1) Whether the employee has any detected medical conditions placing the employee at increased risk of health impairment from occupational noise exposure.

(2) Whether the employee has an STS hearing loss or other otologic work-related injury.

(3) Any recommendations regarding work limitations including use of PPE such as ear plugs or ear muffs.

(4) In the case of an STS hearing loss, the recommendation of retraining, refitting, and enforced use of hearing protection.

(5) A statement that the employee has been informed of the results of the medical examination and of any medical conditions resulting from noise exposure that require further evaluation or treatment. Following a medical determination of an STS hearing loss, an employee must be informed of this in writing within 21 days.

12. Pesticides (Herbicides).

a. Required Medical Surveillance.

(1) Workers who apply commercial use herbicides 30 or more days per year will be enrolled into OMSEP.

(2) There is no applicable OSHA medical surveillance standard. Guidance regarding medical surveillance was obtained from Reference (s).

b. Information for Examining Medical Officer/HCP. The following information must be provided to the examining Medical Officer/HCP, by the unit OMSEP Coordinator, prior to the examination:

(1) A description of the employee's duties as they relate to the employee's exposure.

(2) A description of any PPE used or to be used, including any respirators.

(3) Information from previous medical examinations which is not readily available to the examining Medical Officer/HCP.

c. Examination Protocol. Details of the examination schedule and examination components are contained in the Examination Checklist for Pesticides (Herbicides) (Enclosure 13). The examining Medical Officer/HCP may request any other tests or procedures they deem appropriate.

d. Specific Written Requirements. The examining Medical Officer/HCP must address the following in writing:

(1) Whether the employee has any detected medical conditions placing the employee at increased risk of health impairment from exposure to herbicides.

(2) Whether the employee has a potential work-related injury or illness.

(3) Any recommendations regarding work limitations including use of PPE such as respirators.

(4) A statement that the employee has been informed of the results of the medical examination and of any medical conditions resulting from exposure to herbicides that require further evaluation or treatment.

13. Pesticides (Organophosphates and Carbamates).

a. Required Medical Surveillance.

(1) Workers who handle Category I and II organophosphate and carbamate pesticides for more than 6 days in a 30-day period will be enrolled in OMSEP. A list of some common Category I and II organophosphate and carbamate pesticides are provided in Table 2-4 below.

(2) There is no applicable OSHA medical surveillance standard. Guidance for medical surveillance was obtained from References (s) and (n).

b. Information for Examining Medical Officer/HCP. The following information must be provided to the examining Medical Officer/HCP, by the unit OMSEP Coordinator, prior to the examination:

(1) A description of the employee's duties as they relate to the employee's exposure.

(2) Dates and duration of all organophosphate and carbamate exposures (pesticide applications) since their last cholinesterase test.

(3) A description of any PPE used or to be used, including any respirators.

(4) Information from previous medical examinations which is not readily available to the

examining Medical Officer/HCP. This includes prior cholinesterase test results (most importantly, the baseline red blood cell cholinesterase and plasma cholinesterase test results).

c. Examination Protocol. Details of the examination schedule and examination components are contained in the Examination Checklist for Pesticides (Organophosphates and Carbamates) (Enclosure 14). The examining Medical Officer/HCP may request any other tests or procedures they deem appropriate (e.g., cognitive function testing).

d. Specific Written Requirements. The examining Medical Officer/HCP must address the following in writing:

(1) Whether the employee has any detected medical conditions placing the employee at increased risk of health impairment from organophosphate/carbamate pesticide exposure.

(2) Whether the employee has a potential work-related injury or illness.

(3) Any recommendations regarding work limitations including use of PPE such as respirators.

(4) A statement that the employee has been informed of the results of the medical examination and of any medical conditions resulting from organophosphate/carbamate pesticide exposure that require further evaluation or treatment.

Table 2-4. Some Common Cholinesterase-Inhibiting Pesticides

Organophosphate Pesticides	
Category I	*Category II*
Azinphos-methyl (Guthion)	Acephate (Orthene)
Carbophenothion (Trithion)	Bromophos (Nexion)
Chlorthiophos (Celathion)	Chlorpyrifos (Lorsban, Dursban)
Dialifor (Torak)	Coumaphos (Co-Ral)
Dichlorvos (DDVP, Vapona)	Cyanophos (Cyanox)
Dicrotophos (Bidrin)	DEF (De-Green, E-Z-off D)
Disulfoton (Di-Syston)	Diazinon (Spectracide)
Ethyl p-nitrophenol (EPN)	Dimethoate (Cygon, De-Fend)
Ethyl parathion (Parathion, Thiophos)	Dioxathion (Delnav)
Fenamiphos (Nemacur)	Ethion
Fensulfathion (Dasanit)	Ethoprop (Mocap)
Fonophos (Dyfonate)	Fenitrothion (Agrothion, Sumithion)
Isofenphos (Amaze, Oftanol)	Fenthion (Baytex, Tiguvon, Entex, Lysoff, Spotton)
Methamidophos (Monitor)	Iodofenphos (Nuvanol-N)
Methidathion (Supracide)	Malathion (Cythion)
Methyl Parathion (Dalf, Penncap-M)	Merphos (Folex)
Mevinphos (Phosdrin)	Naled (Dibrom)
Monocrotophos (Azodrin)	Oxydemetron-methyl (Metasystox-R)
Phorate (Thimet)	Phenthoate
Phosphamidon (Dimecron)	Phosalone (Zolone)
Propylthio-pyrophosphate (Aspon)	Phosmet (Imidan, Prolate)
Sulfotepp (Bladafum, Dithione)	Phoxim (Baythion)
Tetraethyl pyrophosphate (TEPP)	Profenofos (Curacron)
	Propetamphos (Safrotin)
	Sulprofos (Bolstar)
	Temephos (Abate, Abathion)
	Tetrachlorvinphos (Gardona, Rabon)
	Trichlorofron (Dylox, Dipterex, Neguvon)
Carbamate Pesticides	
Category I	*Category II*
Albicarb (Temik)	Bufencarb (Bux)
Carbofuran (Furadan)	Carbaryl (Sevin)
Formetanate HCL (Carzol, Dicarzol)	Methiocarb (Mesurol, Draza)
Methomyl (Lannate, Nudrin)	Pirimicarb (Pirimor, Aphox, Rapid)
Oxamyl (Vydate)	Promecarb (Carbamult)
	Propoxur (Baygon)

Adapted from California Environmental Protection Agency, Guidelines for Physicians who Supervise Workers Exposed to Cholinesterase-Inhibiting Pesticides, 4th Edition.

14. Respirator Use.

a. Required Medical Surveillance.

(1) Workers who are required to use or voluntarily use any type of respirator will be enrolled in OMSEP.

(2) Reference (cc) is applicable.

b. Information for Examining Medical Officer/HCP. The assumption is that if a Coast Guard member is cleared for respirator use he/she is cleared for all types of respirators (such as negative pressure air purifying, positive pressure air purifying respirators, and Self-Contained Breathing Apparatus (SCBA)). For civilian employees, the unit OMSEP Coordinator must provide the examining Medical Officer/HCP with a copy of the Respirator Clearance Request, Form CG-6010G, which the employee's supervisor or cognizant SEHO has completed. This form includes the following information:

(1) The type of respirator to be used by the employee.

(2) The duration and frequency of respirator use.

(3) The expected physical work effort.

(4) Additional protective clothing and equipment to be work.

(5) Temperature and humidity extremes that may be encountered.

c. Examination Protocol. Details of the examination schedule and examination components are contained in the Examination Checklist for Respirator Use (Enclosure 15).

d. Specific Written Requirements. The examining Medical Officer/HCP must address the following in writing:

(1) Whether the employee has any detected medical conditions placing the employee at increased risk of health impairment from the use of respirators.

(2) Any recommended work limitations regarding use of respirators to include exertion level and respirator type.

(3) The need for any follow-up medical evaluations. Individuals with chronic lung disease including asthma will have a spirometry test to help evaluate their lung function. Those who have abnormal test results or who require frequent use of rescue inhalers should be restricted in their exertion level, respirator type, or duration of use of respirators.

(4) A statement whether a positive pressure respirator may be used if a negative pressure respirator poses a health risk.

15. Respiratory Sensitizers (Including Isocyanates).

a. Required Medical Surveillance.

(1) Enrollment in OMSEP is required for all personnel who are exposed to any identified respiratory sensitizer at or above one-half of the OSHA permissible exposure limits for 30 or more days per year. In the Coast Guard, exposure to respiratory sensitizers is primarily associated with painting and carpentry, though some marine inspection activities may also lead to exposures. Enrollment may also be required for personnel exposed to levels of non-regulated or regulated respiratory sensitizers which the cognizant SEHO deems as posing a significant risk of causing respiratory sensitization.

(2) There is no applicable OSHA medical surveillance standard. Guidance regarding medical surveillance was obtained from Reference (dd).

b. Information for Examining Medical Officer/HCP. The following information must be provided to the examining Medical Officer/HCP, by the unit OMSEP Coordinator, prior to the examination:

(1) A description of the affected employee's duties as they relate to the employee's exposure.

(2) The employee's representative exposure level or anticipated exposure level to identified respiratory sensitizers without regard to use of PPE.

(3) A description of any PPE used or to be used including respirators.

(4) Information from previous medical examinations which is not readily available to the examining Medical Officer/HCP.

c. Examination Protocol. Details of the examination schedule and examination components are contained in the Examination Checklist for Respiratory Sensitizers (Including Isocyanates) (Enclosure 16). The examining Medical Officer/HCP may request any other tests or procedures they deem appropriate (e.g., chest x-ray, post-bronchodilator test, methylcholine challenge test, and serial peak flow measurements at and away from work).

d. Specific Written Requirements. The examining Medical Officer/HCP must address the following in writing:

(1) Whether the employee has any detected medical conditions placing the employee at increased risk of health impairment from exposure to respiratory sensitizers.

(2) Whether the employee has a potential work-related injury or illness.

(3) Any recommendations regarding work limitations including use of PPE such as respirators.

(4) A statement that the employee has been informed of the results of the medical examination and of any medical conditions resulting from exposure to respiratory sensitizers that require further evaluation or treatment.

16. Solvents (Mixed, Other than Benzene).

a. Required Medical Surveillance.

(1) Enrollment in OMSEP is required for all workers who are or may be exposed at or above one-half of the OSHA PEL for any solvent for 30 or more days per year. Solvents used in the Coast Guard include, among others, include the following: 1-bromopropane, cumene, cyclohexanone, ethylene glycol, glycol ethers, methyl ethyl ketone, methyl isobutyl ketone, methyl n-amyl ketone, methyl propyl ketone, toluene, trichloroethylene, VM & P Naphtha (Varnish Makers and Painter Naphtha™), and xylene. Coast Guard painters are generally enrolled. Enrollment will also be considered for workers exposed to high levels of multiple solvents by quantifying the additive effects of all involved solvents.

(2) There is no applicable OSHA medical surveillance standard. Medical surveillance is based on the Reference (s).

b. Information for Examining Medical Officer/HCP. The following information must be provided to the examining Medical Officer/HCP, by the unit OMSEP Coordinator, prior to the examination:

(1) A description of the affected employee's duties as they relate to the employee's exposure.

(2) The employee's representative exposure level or anticipated exposure level without regard to use of PPE.

(3) A description of any PPE used or to be used including respirators.

(4) Information from previous medical examinations which is not readily available to the examining Medical Officer/HCP.

c. Examination Protocol. Details of the examination schedule and examination components are contained in the Examination Checklist for Solvents (Mixed, Other than Benzene) (Enclosure 17). The examining Medical Officer/HCP may request any other tests or procedures they deem appropriate (e.g., cognitive function tests). Note that skin patch testing is generally of little value in solvent-induced dermatitis, since the pathophysiology is generally not an allergic mechanism.

d. Specific Written Requirements. The examining Medical Officer/HCP must address the following in writing:

(1) Whether the employee has any detected medical conditions placing the employee at increased risk of health impairment from exposure to solvents.

(2) Whether the employee has a potential work-related injury or illness.

(3) Any recommendations regarding work limitations including use of PPE such as respirators.

(4) A statement that the employee has been informed of the results of the medical examination and of any medical conditions resulting from solvent exposure that require further evaluation or treatment.

17. Tuberculosis.

a. Required Medical Surveillance.

(1) Enrollment in OMSEP is required for all the following workers:

(a) Civilian healthcare, childcare workers and firefighters who have Latent Tuberculosis (TB) and need an annual symptom screen; and

(b) All workers following an exposure event to ensure that the initial TB test and repeat TB test 10-12 weeks post-exposure are completed.

(2) There is no applicable OSHA medical surveillance standard. Medical surveillance is based on the guidance from the Centers for Disease Control and Prevention. For workers at high risk of exposure to tuberculosis, enrollment in an annual TB screening protocol will be considered on a case-by-case basis. The Commanding Officer of the unit should contact the Coast Guard Headquarters Occupational Medicine Physician (or his/her designee) to request an exposure assessment based on job duties and geographic location.

b. Examination Protocol. Details of the examination schedule and examination components are contained in the Examination Checklist for Tuberculosis (Enclosure 18). Guidelines for evaluation of personnel with newly reactive tuberculin skin tests (or newly positive TB blood tests) or suspected active TB can be found at www.cdc.gov/tb/.

c. Specific Written Requirements. The examining Medical Officer/HCP must address the following in writing:

(1) Whether the employee has a potential work-related injury or illness.

(2) Any recommendations regarding medical removal from work if symptoms suggestive of active TB are present and/or worker has been confirmed to have active TB.

(3) Recommendations for annual TB symptom screening in cases of Latent TB in civilian healthcare workers, childcare workers and firefighters.

(4) A statement that the employee has been informed of the results of the TB skin test and of any recommended further evaluation or treatment.

CHAPTER 3. CIVILIAN MEDICAL CLEARANCE EXAMINATIONS

A. Overview.

1. Positions Requiring Medical Clearance Examinations. Medical clearance examinations are required for some Coast Guard civilian positions – both General Schedule (GS) and Wage-Grade positions. Reference (ee) addresses medical standards required for some Coast Guard civilian positions. Some positions require only a preplacement examination, others require both preplacement and periodic examinations.

   Per reference (ff) agencies are allowed to identify physical requirements associated with individual civilian positions and incorporate these requirements in pre-appointment and periodic medical examinations. Authority to delegate these positions is delegated to the Coast Guard per reference (gg). To ensure that position descriptions (PDs) clearly define measurable, related and defendable physical requirements (including the amount of time) for each physical activity the Chief of Operations in the Division of the Office of Civilian Resources (CG-1211) must approve all physical requirements included in a PD. Supervisors seeking to create or modify physical requirements for a new or current PD for a GS position must consult with their CG-1211 Human Resources Specialist and obtain approval from the Chief of Operations in the Division of the Office of Civilian Resources (CG-1211).

   In all cases (except for aviators and Commercial Motor Vehicle Operators), a job-specific Civilian Employee Examination Checklist (Enclosures 19-27), Occupational Medical History and Examination, Form CG-6010E, and Civilian Medical Clearance, Form CG-6010D, will be provided to the examining Medical Officer/HCP. If the employee lives or works within 50 miles of a Coast Guard clinic, these examinations should be performed there; otherwise the examination may be completed by an outside HCP. All required laboratory tests, chest x-rays, and immunizations must be obtained from civilian sources. The associated medical expenses for a medical examination, medical testing, and immunizations performed outside of a Coast Guard clinic will be paid by the Coast Guard with AFC-08 funds only if individually preauthorized.

   Upon recovery and prior to resumption of duties incumbents of civilian positions with medical standards or physical requirements who are absent from work as the result of a job-related injury must have a return-to-work medical examination that indicates that are able to safely return to full duty capacity.

2. Concurrent Examinations. If an applicant is expected to be exposed to environmental hazards which require enrollment in an OMSEP program, then medical testing as stipulated in Chapter 2 must be completed concurrently with the preplacement examination.

3. Reviewing Coast Guard Medical Officer. For examinations performed by a HCP a final medical review must be performed subsequent to the physical examination by either the cognizant Coast Guard Medical Officer or the Coast Guard Headquarters Occupational Medicine Physician (or his/her designee), depending on the job position. For examinations performed at a Coast Guard clinic the review will occur concurrently with the physical examination or soon thereafter following receipt of laboratory test results and/or documentation of recent immunizations.

4. Work Conditions. In general, employees who have the following work conditions will require a preplacement and possibly also periodic medical examinations and medical clearances:

   (a) Work involving the operation of heavy equipment
   (b) Work involving physical contact with people
   (c) Work around hazardous, power-driven machinery
   (d) Work that may entail strenuous exertion, hazardous duty, or otherwise has excessive physical demands
   (e) Work that has specific vision or hearing requirements

5. General Laborers. General laborer positions (such as welders, painters, and mechanics) not specifically identified in this chapter will have the functional requirements for their respective job positions listed on page 4 of the Certificate of Medical Examination, Office of Personnel Management Form OF-178. Most Coast Guard general laborer positions are located at the Coast Guard Yard and the Coast Guard Aviation Logistic Center.

6. Select Job Positions. Select job positions requiring medical clearance examinations are listed in Table 3-1 below. Medical clearance for job positions in bold font must be performed by the Coast Guard Headquarters Occupational Medicine Physician (or his/her designee). Medical clearance for other listed job positions must be performed by a Coast Guard Medical Officer; or in the case of Aviation Personnel and Commercial Motor Vehicle Operators, by a civilian HCP who is certified by the Federal Aviation Administration or Federal Motor Carrier Safety Administration, respectively.

Table 3-1. Select Job Positions Requiring Medical Clearance Examinations

Aviation Personnel	**Firefighter**
Childcare Worker	Food Service Worker
CG Criminal Investigator (CGIS)	Forklift Operator
Commercial Motor Vehicle Operator	Healthcare Worker
Crane Operator	Wastewater Worker

B. Worker Groups Involving Care of Others, Food Handling, or Exposure to Infectious Materials for Whom Examination Focuses Primarily on Immunization Status.

1. Childcare Workers.

   (a) Medical Requirements. All childcare workers who work at a Coast Guard Child Development Center are required to have a preplacement examination; thereafter examinations are to be performed every two years. Human Resources will provide the childcare worker with the Certificate of Medical Examination, Office of Personnel Management Form OF-178, for their job position, the Occupational Medical History and Examination, Form CG-6010E, the Checklist for Childcare Worker Examination (Enclosure 19), and the Civilian Medical Clearance, Form CG-6010D.
   Medical and functional requirements are listed in Reference (hh) and the Certificate of

Medical Examination, Office of Personnel Management Form OF-178. They are provided in the Checklist for Childcare Worker Examination (Enclosure 19).

(b) Examination Components. A complete medical examination including best corrected far vision in each eye and a color vision test will be performed. Additional medical history questions are included in the Checklist for Childcare Worker Examination (Enclosure 19).

(c) Vaccinations. Vaccination (or proof of immunity by antibody titer as appropriate) for measles, mumps, rubella, varicella, tetanus, diphtheria, acellular pertussis, and annual influenza as well as a baseline two-step tuberculin skin test or tuberculosis blood test are required. Oversight for continued annual influenza vaccination for childcare workers will be assumed by local Child Development Center administrators. See Chapter 3 – F, Mandatory Vaccinations, of this Manual for additional details.

(d) Administrator Over-sight. Supervisory staff should be vigilant for behavior suspicious of unstable mental health disease that develops subsequent to the last examination. For any concerns, a supervisor should contact Human Resources to determine whether a fitness-for-duty evaluation is needed.

2. Food Service Workers.

(a) Medical Requirements. All food service workers are required to have a preplacement examination. Examination frequency is based on guidance in Reference (s). Human Resources will provide the food service worker with the Certificate of Medical Examination, Office of Personnel Management Form OF-178, for their job position, the Occupational Medical History and Examination, Form CG-6010E, the Checklist for Food Service Worker Examination (Enclosure 20), and the Civilian Medical Clearance, Form CG-6010D.

Health standards for Food Service personnel are detailed in Chapter 3 of Reference (ii). The practice of good personal hygiene is essential to prevent food contamination which may result in food-borne illnesses.

Functional requirements are provided by Coast Guard on the Certificate of Medical Examination, Office of Personnel Management Form OF-178, for the specific job position. Medical requirements are listed on the Checklist for Food Service Worker Examination (Enclosure 20).

(b) Examination Components. A complete medical examination will be performed. If functional requirements for hearing and vision are listed on the OF-178, then hearing and vision tests to support these functional requirements will also be performed. Additional medical history questions are included in the Checklist for Food Service Worker Examination (Enclosure 20).

(c) Supervisor Over-sight. Supervisory staff should perform daily hygiene inspections of food service workers. Workers who exhibit symptoms of communicable disease

including skin sores are required to be evaluated and medically cleared by a Medical Officer/HCP.

3. Healthcare Workers with Direct Patient Care Duties in Coast Guard Clinics.

Healthcare workers with direct patient care duties are listed in Table 3-2 below.

Table 3-2. Healthcare Workers with Direct Patient Care Duties

Audiologists	Medical Technicians	Pharmacy Technicians
Dental Hygienists	Medical Technician Assistants	Physical Therapists
Dental Lab Aids	Medical Technologists	Physical Therapy Assistants
Dental Technicians	Nursing Assistants	Physician Assistants
Dentists	Nutritionists/Dieticians	Physicians
Diagnostic Radiologic Technicians	Occupational Therapists	Psychologists
Health Services Technicians	Optometrists	Registered Nurses
LPNs/LVNs	Orthotists and Prosthetists	Respiratory Therapists
Medical Clerks	Medical Technicians	Social Workers
Medical Instrument Technicians	Pharmacists	

(e) Medical Requirements. Healthcare workers are required to have a preplacement examination. Human Resources will provide the healthcare worker with a completed Certificate of Medical Examination, Office of Personnel Management Form OF-178, for their job position, the Occupational Medical History and Examination, Form CG-6010E, the Checklist for Healthcare Worker Examination (Enclosure 21), and the Civilian Medical Clearance, Form CG-6010D. Specific functional requirements are provided on the Certificate of Medical Examination, Office of Personnel Management Form OF-178.

(f) Examination Components. A complete medical examination will be performed. This will include best corrected near and far vision in each eye and a color vision test. Additional medical history questions are included in the Checklist for Healthcare Worker Examination (Enclosure 21).

(g) Vaccinations. Proof of vaccination (or immunity by antibody titer as appropriate) for hepatitis B, measles, mumps, rubella, tetanus, diphtheria, acellular pertussis, varicella, and annual influenza as well as a baseline two-step tuberculin skin test or tuberculosis blood test will be obtained. Oversight for continued annual influenza vaccination will be assumed by the local Coast Guard clinic administrator. See Chapter 3 – F, Mandatory Vaccinations, of this Manual for additional details.

4. Wastewater/Sewage Workers.

(a) Medical Requirements. Wastewater workers are required to have a preplacement examination. Human Resources will provide the healthcare worker with a completed Certificate of Medical Examination, Office of Personnel Management Form OF-178, for their

job position, the Occupational Medical History and Examination, Form CG-6010E, the Checklist for Wastewater/Sewage Worker Examination (Enclosure 22), and the Civilian Medical Clearance, Form CG-6010D. Specific functional requirements are provided on the Certificate of Medical Examination, Office of Personnel Management Form OF-178.

(b) Examination Components. A complete medical examination will be performed.

(c) Vaccinations. Vaccinations for diphtheria and tetanus are required. See Chapter 3 – F, Mandatory Vaccinations, of this Manual for additional details.

C. Safety Sensitive Jobs for which the Worker Provides Proof of Certification by a Private Federally Certified Medical Examiner.

1. Aviation Personnel. All civilian aviation personnel must maintain current FAA certification. The examination is to be performed by a physician who is certified by FAA as an Aviation Medical Examiner. A copy of the signed and dated Medical Certificate with recorded expiration date will be provided at time of hire and will be reviewed by a Coast Guard Medical Officer. Supervisory staff should ensure continued currency of FAA certification.

2. Department of Transportation Commercial Motor Vehicle Operators. All Commercial Motor Vehicle operators must maintain current Commercial Driver License (CDL) certification. The examination is to be performed by a private (non-Coast Guard) physician who is registered with the Federal Motor Carrier Safety Administration as a National Registry of Certified Medical Examiner. A copy of the signed and dated Medical Examiner's Certificate with recorded expiration date will be provided at time of hire. Supervisory staff should ensure continued currency of CDL certification.

D. Safety Sensitive Jobs for which the Examining Medical Officer/HCP Performs the Medical Clearance.

1. Crane Operators.

(a) Medical Requirements.

[1] A complete preplacement medical examination and periodic examination thereafter every 2 years is required. Human Resources will provide the worker with a completed Certificate of Medical Examination, Office of Personnel Management Form OF-178, for their job position, the Occupational Medical History and Examination, Form CG-6010E, the Checklist for Crane Operator Examination (Enclosure 23), and the Civilian Medical Clearance, Form CG-6010D. Medical requirements and examination frequency are based on guidance in References (s) and (jj). [Note: If functional requirements within the Certificate of Medical Examination, Office of Personnel Management Form OF-178, are more stringent than listed in the Checklist for Crane Operator Examination (Enclosure 23), then those requirements will be used.]

[2] The medical requirements for crane operators are provided in the Checklist for Crane

Operator Examination (Enclosure 23). Included are medical requirements regarding the use of any drug or substance identified in Schedule I of Reference (kk), an amphetamine, a narcotic, or other habit-forming drug; and the use of any non-Schedule I drug or substance that is identified in the other Schedules in Reference (kk) except when the use is prescribed by a licensed medical practitioner, as defined in Reference (ll), who is familiar with the crane operator's medical history and has advised the crane operator that the substance will not adversely affect the worker's ability to safely operate a crane.

(b) Examination Components. A complete physical examination will be performed including other examination components provided in the Checklist for Crane Operator Examination (Enclosure 23).

2. Forklift Operators.

(a) Medical Requirements.

[1] A complete preplacement medical examination and periodic medical examinations thereafter every 2 years is required. Human Resources will provide the forklift operator with a completed Certificate of Medical Examination, Office of Personnel Management Form OF-178, for their job position, the Occupational Medical History and Examination, Form CG-6010E, the Checklist for Forklift Operator Examination (Enclosure 24), and the Civilian Medical Clearance, Form CG-6010D. Medical requirements are based on Reference (mm) as follows. [Note: If functional requirements within the Certificate of Medical Examination, Office of Personnel Management Form OF-178, are more stringent than listed in the Checklist for Forklift Operator Examination (Enclosure 24), then those requirement(s) will be used.]

[2] The medical requirements for forklift operators are provided in the Checklist for Forklift Operator Examination (Enclosure 24).

(b) Examination Components. A complete physical examination will be performed including other examination components provided in the Checklist for Forklift Operator Examination (Enclosure 24).

E. Safety Sensitive Jobs for which the Coast Guard Headquarters Occupational Medicine Physician Performs the Medical Clearance.

1. Coast Guard Criminal Investigators (CGIS).

a. Medical Requirements. Medical examinations will be performed at baseline (preplacement) and thereafter every two years. In between examinations, incumbent Coast Guard Criminal Investigators are to report any significant change in their health status and/or new use of potentially sedating medication. Human Resources will provide the criminal investigators with a completed Certificate of Medical Examination, Office of Personnel Management Form OF-178, for their job position, the Occupational Medical History and Examination, Form CG-

6010E, the Checklist for CGIS Examination (Enclosure 25), and the Civilian Medical Clearance, Form CG-6010D. Completed medical examination forms and medical test results as well as other medical information provided by the worker at the time of the medical examinations will be securely forwarded to the Coast Guard Headquarters Occupational Medicine Physician (or his/her designee) for review. Guidance for medical requirements was obtained from the American College of Occupational and Environmental Medicine (ACOEM) Law Enforcement Guidance for the Medical Evaluation of Law Enforcement Officers and Office of Personnel Management (OPM), OPM GS-1811 series. For each medical standard requirement, the source of that requirement is provided in parentheses.

(1) The duties of positions in this job position requires moderate to arduous physical exertion involving walking and standing, use of firearms, and exposure to inclement weather. Employees must have the capacity to perform the essential functions of the position without risk to themselves or others. (*OPM*)

(2) Manual dexterity with comparatively free motion of finger, wrist, elbow, shoulder, hip, and knee joints is required. Arms, hands, legs, and feet must be sufficiently intact and functioning in order that an employee may perform the duties satisfactorily. (*OPM*)

(3) Sufficiently good vision in each eye, with or without correction, and near vision is required to perform the duties satisfactorily. *(OPM)*

(a) Distant visual acuity should be corrected to 20/40 or better in each eye and 20/20 or better binocularly. (*ACOEM*)

(b) Uncorrected distant acuity should be 20/100 or better binocularly or the worker should have a history of successfully wearing soft contact lenses. (*ACOEM*)

(c) Best corrected near visual acuity should be 20/40 or better in the better eye. (*ACOEM*)

(d) Individuals with a history of refractive surgery should be free of significant haze, glare, halos, starbusts, ghosting, dryness that affects vision, loose epithelium, diffuse lamellar keratitis, and active infection, should not be using steroid eye drops, and should have stable refraction (defined as no more than ½ diopter of change between documented refractions at least 2 weeks apart). Photorefractive keratectomy (PRK) and laser assisted sub-epithelium keratomileusis (LASEK) patients may return to work when approved by their surgeon, but should have a refraction at about 12 weeks and 6 months post-operatively to insure stability. (*ACOEM*)

(e) Color vision should be normal as tested by a 14-plate Ishihara test or Farnsworth D-15. The use of tinted lenses (e.g., “X-chrom”) to pass the test is not allowed. (*ACOEM*)

(f) Horizontal visual field of at least 120 degrees in each eye. Formal visual field

testing should be performed for individuals with a history of eye disease and for those who cannot be corrected to 20/20 in either eye. (*ACOEM*)

(g) If depth perception is worse than 100 seconds of arc, then individual should be referred to an ophthalmologist for further evaluation to exclude amblyopia, a phoria, tropia, or intermittent fixation. *(ACOEM)*

(4) Adequate hearing.

(a) Hearing loss in each ear, as measured by an audiometer, must not exceed 35 decibels at 1000, 2000, and 3000 Hz levels. (*OPM*)

(b) Average hearing threshold in the better ear must not be greater than 40 dB for 500, 1000, and 2000 Hz with or without a hearing aid. If the average hearing threshold exceeds 40 dB, then an additional hearing assessment to better define the hearing impairment will be performed and will include a word recognition test, Speech Perception in Noise (SPIN), Speech in Noise (SIN) and/or Hearing in Noise Test (HINT). *(ACOEM)*

(c) If hearing loss exceeds 25 dB in either ear at 500, 1000, 2000, or 3000 Hz, then an additional hearing assessment to better define the hearing impairment will be performed and will include a word recognition test, Speech Perception in Noise (SPIN), Speech in Noise (SIN) and/or Hearing in Noise Test (HINT). *(ACOEM)*

(d) Use of hearing aids is acceptable. However, all hearing tests will need to be performed using sound field testing, one aided ear at a time, while masking the unaided ear. *(ACOEM)*

(5) Since the duties of these positions are exacting and responsible, and involve activities under trying conditions, employees must possess emotional and mental stability. (*OPM*)

b. Examination Components. A complete physical examination including the following is required.

(1) Distant visual acuity in each eye and binocularly, both uncorrected and corrected.

(2) Best corrected near vision in each eye.

(3) Color vision – Ishihara (14-plate) or Farnsworth D-15.

(4) Peripheral vision – Horizontal visual field of in each eye.

(5) Depth perception – in seconds of arc.

(6) Audiometry test to include 500, 1000, 2000, 3000, 4000, 6000, and 8000 Hz in each ear.

(7) The following laboratory tests: CBC with differential, RBC indices and morphology and platelet count; sodium, potassium, chloride, HCO3 or CO2, BUN, creatinine, ALT, AST, direct bilirubin, indirect bilirubin, alkaline phosphatase; urinalysis without microscopic examination; fasting total cholesterol, HDL-cholesterol, LDL-cholesterol, triglycerides and glucose; and hemoglobin A1c if there is a history of diabetes.

(8) Spirometry test (including FVC and FEV1) at baseline.

(9) Resting electrocardiogram.

(10) Blood pressure, height and weight.

2. Firefighters.

a. Medical Requirements. Human Resources will provide firefighters with a completed Certificate of Medical Examination, Office of Personnel Management Form OF-178, for their job position, the Occupational Medical History and Examination, Form CG-6010E, the Checklist for Firefighter Examination (Enclosure 26), and the Civilian Medical Clearance, Form CG-6010D. Medical examinations will be performed at baseline (preplacement) and thereafter annually. In between examinations incumbent Coast Guard Firefighters are to report any significant change in their health status and/or new use of potentially sedating medication. Completed medical examination forms and medical test results as well as other medical information provided by the worker at the time of the medical examinations will be securely forwarded to the Coast Guard Headquarters Occupational Medicine Physician (or his/her designee) for review.

b. Purpose of the Examination. The purpose of the firefighter examination is to determine the reasonable likelihood of a firefighter's ability to execute the essential functions of fire suppression and rescue. The medical history is the most critical and valuable element of the examination. The physical examination and required ancillary testing augment the medical history. A secondary purpose of the examination is to complete OMSEP medical surveillance requirements for hazardous waste and noise exposures.

c. Essential Job Functions. The essential job functions of a firefighter are as follows.

(1) Perform fire-fighting operations (e.g. hoseline operations, extensive crawling, lifting and carrying heavy objects, ventilating roofs or walls using power or hand tools, and forcible entry), rescue operations, and other emergency response actions under stressful conditions while wearing personal protective ensembles and SCBA, including working in extremely hot or cold environments for prolonged time periods.

(2) Exposure to toxic fumes, irritants, particulates, biological (infectious) and nonbiological hazards and/or heated gases.

(3) Climb 6 or more flights of stairs while wearing fire protective ensemble weighing at least 50 pounds and carrying tools weighing an additional 20 to 40 pounds.

(4) Wear encapsulating or insulated fire protective ensemble with associated water loss and potential elevation of core body temperature to over 101.2 degrees F.

(5) Search, find and rescue-drag or carry victims over 200 pounds in weight to safety despite hazardous and low visibility conditions.

(6) Advance water-filled hoseline up to 2.5 inches in diameter from a fire apparatus to occupancy (approximately 150 feet), possibly involving ladders and multiple flights of stairs while wearing personal protective ensembles and SCBA.

(7) Climb ladders, operating from heights, walking or crawling in the dark along narrow and uneven surfaces, and operating in proximity to electrical power lines while wearing personal protective ensembles and SCBA.

(8) Extreme physical exertion for prolonged periods of time without rest periods, meals, access to medication or hydration.

(9) Operate a fire apparatus or other vehicles in emergency mode with emergency lights and sirens.

(10) Critical, time-sensitive, complex problem solving under stressful and hazardous conditions (fatigue, hot/dark, enclosed spaces, flashing lights, sirens, and distractions).

(11) Communicate and comprehend verbal orders while wearing personal protective ensembles and SCBA under high background noise and poor visibility conditions.

(12) Function as an integral component of the team.

d. Medical Standard. The most current National Fire Protection Association (NFPA) Standard 1582, "Comprehensive Occupational Medical Program for Fire Department" (Reference (nn) shall be used as general guidance for physical examination components and medical requirements for civilian and Coast Guard member firefighters. Firefighters will also need to meet Office of Personnel Management (OPM) Fire Protection and Prevention Series, 0081 medical requirements. Coast Guard Medical Officers/HCPs who perform PHAs for Coast Guard member firefighters should ensure that aerobic capacity, hearing, vision, and medication use are appropriate. All OPM and a *partial list* of the NFPA 1582 medical standards are provided below. Employees with NFPA Category A conditions will not be medically cleared; employees with NFPA Category B conditions may be medically cleared if they can perform the essential job tasks without posing a significant safety and health risk to themselves or others.

(1) Distant Vision:

(a) Corrected distant vision of at least 20/30 in one eye and 20/70 in the other eye. (*OPM*)
(b) Corrected distant vision of at least 20/40 or better binocularly. (*NFPA – Category A*)

(c) Uncorrected distant vision for wearers of hard contact lenses or spectacles must be 20/100 or better binocularly. (*NFPA*)

(d) Vision required in both eyes. (*NFPA – Category A*)

(2) Color vision sufficient to use imaging devices such as thermal imaging cameras. (*NFPA – Category A*)

(3) Peripheral vision in the horizontal meridian of less than 110 degrees in better eye. (*NFPA – Category B*)

(4) Hearing:

(a) Unaided hearing <u>average</u> of 40 db or better in better ear for 500, 1000, 2000, and 3000 Hz. (*NFPA – Category A*)

(b) Unaided hearing <u>average</u> of 40 db or better for 500, 1000, 2000, and 3000 Hz in each ear. (*NFPA – Category B*)

(c) Unaided hearing of 30 dB or better at 500, 1000, and 2000 Hz in each ear. (*OPM*)

(5) Spirometry Test Results: FVC and FEV1 70 percent or greater than the predicted values. (*NFPA – Category A*)

(6) Medications: No use of narcotics, sedative-hypnotics, anticoagulation medications, beta-adrenergic blocking agents, high-dose diuretics, central acting antihypertensive agents (e.g., clonidine), inhaled bronchodilators, inhaled corticosteroids, systemic steroids, theophylline, leukotriene receptor antagonists, high-dose corticosteroids for chronic disease, or anabolic steroids. (*NFPA – Category A*)

(7) Aerobic capacity of 12 or more Metabolic Equivalents (METS). (*NFPA – Category A*)

(8) Asthma - No current asthma in the last 2 years, no use of asthma medications in the last 2 years; and FVC and FEV1 should be 90% or greater of the predicted value. (*NFPA*)

e. <u>Examination Components</u>. Examination components are based on NFPA guidelines. Hemoglobin A1c testing for individuals with a history of diabetes mellitus was added as per Reference (s). The physical examination including the following is required.

(1) Distant visual acuity in each eye and both eyes together, both uncorrected and corrected.

(2) Color vision (Ishihara 14-plate or Farnsworth D-15)

(3) Peripheral vision.

(4) Audiometry test to include 500, 1000, 2000, 3000, 4000, 6000, and 8000 Hz in each ear.

(5) The following laboratory tests: CBC with differential, RBC indices and morphology and platelet count; sodium, potassium, chloride, HCO3 or CO2, BUN, creatinine, ALT, AST, direct bilirubin, indirect bilirubin, alkaline phosphatase; urinalysis with microscopic examination, fasting total cholesterol, HDL, LDL, triglycerides and glucose. Hemoglobin A1c if there is a history of diabetes mellitus.

(6) Spirometry test (including FVC and FEV1).

(7) Resting electrocardiogram.

(8) A chest x-ray at baseline and thereafter every 5 years.

(9) Prostate specific antigen test (PSA) for male firefighters beginning at age 50.

(10) Fecal occult blood test beginning at age 40.

(11) Blood pressure, height, weight, and waist circumference.

f. Medical Conditions that should be Fully Evaluated.

(1) Coronary artery disease is the number one risk of death for firefighters while performing fire suppression and rescue. Cardiac risk factor evaluation is particularly important for firefighters. Counseling firefighters about coronary artery disease risk factors (diabetes, hypertension, lipid profile, and smoking) and the importance of modifying them is vital. The Framingham 10-year risk calculation is a useful screening tool to characterize a firefighter's risk of a cardiac event. The National Institutes of Health offers an on-line calculator at http://cvdrisk.nhlbi.nih.gov/. Those with a risk score of greater than 10% require further evaluation with a symptom-limiting stress test and imaging techniques (such as echocardiography and technetium Tc99m sestamibi study).

(2) Metabolic syndrome is defined by the American Heart Association as having three or more of the following: waist circumference 40 inches or greater in men and 35 inches or greater in women; triglyceride level 150 mg/dL or greater; HDL cholesterol less than 40 mg/dL in men or less than 50 mg/dL in women; systolic blood pressure 130 mm Hg or greater or diastolic blood pressure 85 mm Hg or greater; and fasting glucose 100 mg/dL or greater. Individuals with metabolic syndrome are three times as likely compared to people without the syndrome to have a heart attack or stroke. They should be referred to their primary care provider for aggressive risk factor control, generally using a

multimodal approach including pharmacologic therapy, weight reduction, diet counseling, exercise, and control of other risk factors.

(3) Diabetes (either Type I or II) markedly increases the risk of a myocardial infarction. Between 20 and 50 percent of diabetics have undiagnosed coronary heart disease. The risk of myocardial infarction for diabetics without a previous myocardial infarction is the same as for individuals with a previous myocardial infarction, about 5 times greater than the background incidence.

g. Vaccinations. Vaccination (or proof of immunity by antibody titer as appropriate) for hepatitis B, and tetanus and diphtheria (DT) is required. See Chapter 3 – F, Mandatory Vaccinations, of this Manual for additional details.

F. Mandatory Vaccinations.

1. Requirements. Vaccination requirements may be met either by documentation of a complete series for the vaccination or, in some cases, by serologic evidence of immunity. All immunizations for civilian employees, including the seasonal influenza immunization need to be obtained by a private HCP. Guidance was obtained from References (oo) and (nn) and Advisory Committee on Immunization Practices (ACIP), Adult Immunization Schedule, and CDC guidance for TB skin testing of healthcare workers. See Table 3-3 below for mandatory vaccinations by job category.

2. Tuberculosis Test.

a. Two-step Method. For tuberculin skin testing (TST) the "two-step method" must be used. This is to detect individuals who were infected with the tuberculosis bacteria many years previously and for whom the ability to react to tuberculin has waned. The first test must be completed 1 week to 12 months prior to the second test, so it is possible to use the results from a TST up to 12 months prior to the preplacement examination. The initial test stimulates the ability to react to the second test. If this test result is positive, the second test is not needed, and the individual is considered infected. If the first TST is negative, then a second TST will be repeated in 1-3 weeks. If this second test result is positive, the person is considered infected; and if both the first and second tests are negative the person is considered uninfected. Alternately, the individual may be tested with a tuberculosis blood test (Interferon-Gamma Release Assay). If the individual tests positive by either method, he/she will need to submit supporting medical documentation indicating the absence of active tuberculosis.

b. New Positive TB Test Result. Any healthcare worker or childcare worker with a new positive TB test result requires a full medical evaluation to rule out active (infectious) TB to include a current chest x-ray and medical examination and completion of a tuberculosis symptom questionnaire. Consideration should be made as to whether or not to recommend chemoprophylaxis. Workers with a prior positive TB skin test will have a chest x-ray report subsequent to that time reviewed and will complete a tuberculosis symptom questionnaire. Workers with a positive TB skin test but no active TB (i.e. Latent TB), are required to have an annual TB symptom screen and for this reason they will be entered in the OMSEP

Tuberculosis program as per Chapter 2-C-17 of this Manual. Annual TB skin testing is not generally required for healthcare workers.

3. Seasonal Influenza Immunization. Influenza immunization is required for all civilian healthcare personnel who provide direct patient care as a condition of employment, childcare workers, and firefighters unless there is a documented medical or religious reason not to be immunized.

Table 3-3. Immunization Requirements by Job Category

	Healthcare workers with direct patient care*	Childcare workers**	Fire-fighters***	Waste-water workers****
Hepatitis B[1]	X		X	
Influenza (annual)	X	X		
Measles, Mumps and Rubella (MMR)[2]	X	X		
Tetanus, Diphtheria, Acellular Pertussis (Tdap, DT)[3]	X	X	X	X
TB skin test[4]	X	X		
Varicella[5]	X	X		

[1]three doses; [2] two lifetime doses of MMR for healthcare workers, one dose for childcare workers; [3] healthcare workers, childcare workers and wastewater workers with an unknown or incomplete history of completing a 3-dose primary vaccination series must begin or complete a primary vaccination series including a Tdap dose, firefighters should have a DT (or initial Tdap) booster every 10 years; [4] two-step tuberculin skin test or TB blood test; [5] two doses. *Documented antibody titers may be provided in lieu of many vaccinations.*

* Reference (oo) requires Hepatitis B, influenza, MMR, DT/Tdap and varicella vaccinations for healthcare workers; CDC recommends a baseline TB tests for healthcare workers in low risk healthcare facilities.

** Reference (oo) requires vaccination against communicable diseases in accordance with ACIP adult immunization for childcare center workers; reference (ee) requires baseline TB test.

***Reference (pp) requires DT/Tdap and Hepatitis B vaccinations for firefighters; reference (mm) requires Hepatitis B vaccination for firefighters.

**** Reference (oo) requires DT/Tdap vaccination for wastewater workers.

CHAPTER 4. SEA DUTY ASSIGNMENTS FOR NON-COAST GUARD MILITARY MEMBERS

A. Job Description.

Federally employed civilians, non-federally employed civilians, and US Public Health Service (USPHS) officers not assigned to the Coast Guard who are aboard a Coast Guard cutter at sea (guest crew members) need to be medically cleared for all boat crew job assignments if they will be berthing (whether at sea or in port) on a Coast Guard cutter. Guidance on physical requirements was obtained from the National Oceanic and Atmospheric Administration (NOAA) for their guest crew members.

B. Physical Requirements. All boat crew members must be possess or be able to perform the following.

1. Able to climb up and down a rope ladder with rigid rungs
2. Able to climb stairs
3. Able to stand on a steel deck for 4-8 hours per day
4. Able to walk on a steel deck for 4-8 hours per day
5. Able to walk on slippery or uneven walking surfaces
6. Able to step over a 24 inch high door sill
7. Able to carry 15 pounds
8. Able to don a survival suit in less than one minute without assistant from another individual
9. Able to hear a ship's general alarm (hearing aid permitted)
10. Able to move through a restricted opening of 24 inches by 24 inches
11. Able to open and close watertight doors that may weigh up to 55 pounds
12. Able to lift at least 40 pounds
13. Able to crouch, crawl, kneel, and stoop by bending at the waist
14. Agility, strength and range of motion sufficient to put on a personal flotation device and exposure suit without assistance from another individual (this includes the ability to fit into a standard personal flotation device)
15. Have a normal sense of balance

16. Capable of normal conversation

C. Disqualifying Medical Conditions. Disqualifying medical conditions include those which adversely affect job performance, which would pose a threat to the health and safety of the individual or crew members, or mission, or which require treatment beyond the capability of the facilities and personnel aboard the vessel.

D. Medical Evaluation. Guidance on the medical evaluation was obtained from NOAA's approach for the medical clearance of their guest crew members. Employees are required to complete the Guest Crew Member Health Questionnaire, Form CG-6010J. The completed form must then be reviewed by a Coast Guard Medical Officer. Additional medical information from employee interviews and/or from the employee's personal physician will be obtained as needed for affirmative responses on the questionnaire.

CHAPTER 5. CIVILIAN DEPLOYMENTS, OCONUS JOB ASSIGNMENTS, MEDICAL EVACUATIONS, AND MEDICAL CARE IN REMOTE LOCATIONS

A. Civilian Deployments.

1. Overview. Coast Guard civilian employees may deploy alongside Coast Guard or Department of Defense members during deployments both within and outside the U.S. In many cases there will be no reliable access to quality medical care. Most deployments require the ability to stand for prolonged periods of time, walk on uneven terrain, climb stairs, and sustain heat stress. Depending on the deployment situation, one of the following medical clearance procedures will apply.

   a. Physical Examination. This must include laboratory testing with a medical clearance determination by a Coast Guard Medical Officer. Guidance regarding medical examination components was obtained from the United States Navy and Marine Corps Public Health Center, Medical Surveillance Procedures Manual and Medical Matrix, Edition 12, NMCPHC-TM OM 6260, "OCONUS Deployment Greater than 30 Days." See Chapter 5.A.2 of this Manual for further details on medical examination components. A medical determination is made by the examining Medical Officer/HCP with a final determination by a Coast Guard Medical Officer if the examination was not performed at a Coast Guard clinic.

   b. Medical Questionnaire Only. The medical history portion of the Occupational Medical History and Examination, Form CG-6010E, is completed and a medical clearance determination is made by a Coast Guard Medical Officer. Additional medical information from employee interviews and/or from the employee's personal physician will be obtained as needed for affirmative responses on the questionnaire.

   c. Volunteer Self Health Risk Assessment. The Volunteer Self Health Risk Assessment (Enclosure 27) is used for the Surge Capacity Force which assists the Federal Emergency Management Administration. The employee is provided with a list of physical work conditions and physical requirements for deployment, and a list of potentially disqualifying medications, medical conditions, risk factors, and physical examination findings. If the employee uses any of the listed medications or has any of the medical conditions, risk factors or examination findings, they are to certify that their health professional has reviewed their medical information as well as the anticipated physical requirements and has medically cleared them to deploy.

2. Physical Examination. The physical examination will include the following:

   a. Medical Examination. The Occupational Medical History and Examination, Form CG-6010E, will be completed, to include height, weight, blood pressure, best corrected distant visual acuity and audiogram test results.

   b. Dental examination within prior 12 months with completion of Active Duty/Reserve Forces Dental Examination, Form DD-2813, by the employee's personal dentist.

c. Laboratory tests will include complete red blood cell count with differential and platelet count, fasting lipid panel (LDL-cholesterol, HDL-cholesterol, total cholesterol, triglycerides), AST, ALT, total bilirubin, alkaline phosphatase, urinalysis, hemoglobin A1c if there is a history of diabetes or fasting glucose exceeds 125 mg/dl. Test results will be used to calculate the individual's Framingham Risk Score using The National Institutes of Health on-line Framingham Risk Score calculator at http://cvdrisk.nhlbi.nih.gov/. A Framingham Risk Score of 10% or greater requires a resting electrocardiogram. A Framingham Risk Score of 15% or greater is disqualifying unless satisfactory results from a graded exercise stress test with a myocardial perfusion scintigraphy (SPECT scan) or stress echocardiography are provided by the individual and are reviewed by the examining Medical Officer/HCP.

3. Civilian Medical Clearance. Civilian Medical Clearance, Form CG-6010D, is used for Physical Examination and Medical Questionnaire Only evaluations. If a physical examination is completed, a medical determination is made by the examining Medical Officer/HCP with a final determination by a Coast Guard Medical Officer for examinations performed outside of a Coast Guard clinic. For Questionnaire Only evaluations, the determination is made by the reviewing Coast Guard Medical Officer. The medical clearance determination should take into consideration the following.

   (a) Whether the employee will likely be able to safely perform the physical requirements of the deployment; and

   (b) Whether the employee has any medical conditions or medical requirements that would interfere with them safely living and working in an austere environment with limited access to medical care.

   (c) The use of mobility aids, electrical medical equipment (such as CPAP machine, or nebulizer), and injectable medications generally are not suited for deployment conditions. Medical conditions (if present) must be stable and reasonably anticipated by the examining Medical Officer/HCP not to worsen during deployment. Medications that are used are to have no special handling and storage requirements (e.g., refrigeration).

4. Disqualifying Medical Conditions. Coast Guard Medical Officers making medical clearance determinations will apply disqualifying medical conditions in Reference (ss).

5. Medical Waivers. Medical waiver requests shall be submitted to the Coast Guard Headquarters Occupational Medicine Physician (or his/her designee) through the Coast Guard Civilian Personnel Office with medical input provided by the individual's medical provider. Maximizing mission accomplishment and protecting the health of personnel are the ultimate goals. Requests shall include a detailed summary of the medical evaluation or consultation concerning the pertinent medical condition(s). Justification shall include statements indicating service experience, position to be placed in, any known specific hazards of the position, anticipated availability and need for care while deployed, the benefit expected to accrue from the waiver, the recommendation of the supervisor, and the reasonable accommodations that can be provided for by Reference (rr), as amended.

6. Immunizations and Malaria Chemoprophylaxis. Immunizations and malaria chemoprophylaxis, as required, is to be provided by the employee's personal physician or State Health Department under the direction of a Coast Guard Medical Officer. Refer to the Centers for Disease Control and Prevention (CDC) website at http://www.cdc.gov and http://www.travel.state.gov for guidance. Questions regarding the appropriate preventive medical measures should be referred to the Coast Guard Headquarters Preventive Medicine Physician. G6PD screen (if travelling to a Chloroquine-sensitive malaria endemic area) and Tuberculin skin test (if travelling to a tuberculosis endemic area) may be required.

7. Health Threat Briefing. Prior to deployment employees are to receive a health threat briefing which summarizes any preventive medicine threats at the deployment location.

8. Voluntary Completion of Electronic Pre- and Post-Deployment Health Assessments, Mental Health Assessments, and Neurocognitive Test for Expeditionary Deployments. Pre- and Post-Deployment questionnaires may be completed on a voluntary basis by civilians involved in expeditionary deployments within the Coast Guard. The Pre-Deployment Health Assessment, Form DD-2795, is completed within 30 days prior to a deployment. The Post-Deployment Health Assessment, Form DD-2796 is completed no earlier than 7 days before and no later than 30 days after returning from the deployment. The Post-Deployment Health Reassessment, Form DD-2900 is completed within 3 to 6 months of returning from the deployment. Assessments must be completed electronically on the U.S. Navy's Electronic Deployment Health Assessment Database (EDHA) at https://data.nmcphc.med.navy.mil/edha/. Mental Health Assessments and baseline neurocognitive test as per Chapter 6 of Reference (a) may also be voluntarily completed for expeditionary deployments.

B. Civilian OCONUS Job Assignments**.** Based on how remote or austere the OCONUS job assignment is, the Commanding Officer may request a medical clearance by a Coast Guard Medical Officer to ensure that employee's medical conditions do not exceed the capabilities of locally available medical care.

C. Medical Evacuations.

1. Civilian employees traveling overseas may become injured or develop an illness for which adequate medical attention is not locally available and for which medical evacuation (MEDEVAC) is required. In the event that the civilian employee is traveling overseas on official TDY orders and the Department of State's Foreign Service Medical Provider (Regional Medical Officer, Regional Psychiatrist or Foreign Service Health Practitioner) has determined that adequate medical facilities do not exist at the overseas duty location, MEDEVAC expenses will be approved. Section 16 FAM 300 of Reference (ss) provides additional details on the administrative approval process.

2. If a MEDEVAC is necessary, the Coast Guard National Command Center (NCC) at 202-372-2100 or 1-800-323-7233 is to be immediately notified. Emails to the NationalCommandCenter@uscg.mil can also be sent for documentation purposes. The U.S. Embassy, Consulate, or post representative will coordinate all logistics with an appropriate international MEDEVAC provider to ensure expeditious transport to the nearest, most suitable,

adequate medical facility, which may include non-U.S. facilities.

3. Prior to travel, employees are to submit a country clearance request per Reference (tt) or the Department of State Electronic Country Clearance system. Travel orders are to include the following statement: "If the traveler becomes incapacitated by illness or injury during TDY travel not due to their own misconduct, then the US. Coast Guard is authorized to pay for MEDEVAC expenses in the event locally available medical facilities are inadequate. MEDEVAC expenses will be accounted for in the International Cooperative Administrative Support Service (ICASS) account, which COMDT (CG-832) manages."

4. Civilian employees who become injured or ill due to negligence or misconduct, or are on leave in conjunction with official orders, will be required to reimburse the U.S. Government for all costs billed to the ICASS account.

D. Medical Care in Remote Locations and Aboard Coast Guard Vessels. Federal employees may be provided medical care by a Coast Guard clinic while serving with the Coast Guard in a locality where civilian healthcare is not obtainable, such as onboard a Coast Guard vessel. Routine care should not be furnished to non-federally employed civilians. When non-federally employed civilians are aboard Coast Guard vessels for relatively lengthy periods, the Commanding Officer must determine what treatment is to be given.

CHAPTER 6. CIVILIAN OCCUPATIONAL INJURIES AND ILLNESSES

A. Overview.

The Federal Employees' Compensation Act (FECA) provides a comprehensive workers' compensation program which pays compensation for disability or death of a federal employee resulting from personal injury sustained while in the performance of duty. Benefits include wage loss compensation for total or partial disability, schedule awards for permanent loss or loss of use of specified members of the body, related medical costs and vocational rehabilitation.

B. Diagnosis and Treatment.

1. Diagnosis and treatment of an injury or illness sustained in performance of official duties is authorized in Reference (uu), and administered by the Department of Labor, Office of Workers' Compensation Program (Publication CA-810).

   a. The employee has the option of receiving care for occupational injuries or illnesses from a local Coast Guard clinic (on a space available basis) or a healthcare provider of his/her choice. However, Coast Guard clinics should provide first aid and emergency care treatment for both occupational and non-occupational injuries and illnesses.

   b. First aid is defined as medical attention that is usually administered immediately after the injury occurs at the location where it occurred and which usually consists of a one-time treatment that requires little technology or training to administer. Emergency care is defined as care provided for a condition in which delay in treatment is likely to result in death or permanent impairment (e.g., basic life support). Coast Guard clinics are not to provide non-urgent treatment for non-occupational injuries and illnesses.

2. All claims must be submitted within 3 years of the occurrence of an injury or illness. Additional information is provided in Reference (vv).

C. Payment for Medical Treatment.

1. Form CA-16 is used by the Coast Guard to pre-authorize medical care in the case of an injury. In an emergency, where there is no time to complete Form CA-16, Coast Guard Human Resources may authorize medical treatment by telephone and then forward the form to the medical facility within 48 hours. Retroactive issuance of Form CA-16 is not allowed under any other circumstance. In addition, Coast Guard may refuse to issue a CA-16 if more than a week has passed since the injury.

2. If the Coast Guard clinic refers the civilian employee to an outside HCP for evaluation and treatment of an occupational injury or illness, such referrals to other sources of healthcare constitute disengagement by the Coast Guard regarding the medical management of the civilian employee's episode of care. In addition, the Coast Guard will not unequivocally reimburse employees for bills acquired due to medical treatment by other HCPs based on a referral by a Coast Guard Medical Officer. To ensure reimbursement, the procedures outlined

in Reference (vv), will need to be followed.

3. If a worker requires medical treatment because of a work-related illness or for a work-related traumatic injury for which a CA-16 was not obtained, he/she should obtain care directly from a "physician", preferably from a specialist in the indicated field. The Federal Employment Compensation Act definition for "physician" includes surgeons, podiatrists, dentists, clinical psychologists, optometrists, osteopathic practitioners, and chiropractors; however it includes chiropractors only for manual manipulation of the spine to correct a subluxation when demonstrated to exist by x-ray. Non-physician providers such as physician assistants, nurse practitioners and physical therapists may also provide authorized services for injured employees to the extent allowed by applicable Federal and State law. The employee needs to report information on Form CA-2 or CA-1 (as appropriate) and submit supporting medical records. If, based on submitted information, the Department of Labor, Office of Workers' Compensation Program subsequently accepts the medical condition as a work-related illness, it will pay for medical treatment required for that condition. Timelines and additional information are provided in Reference (vv).

D. Electronic Workers' Compensation Database (ECOMP). ECOMP is a web-based application accessible via the Department of Labor (DOL) website. It allows injured federal workers and their employers to electronically file CA-1's and CA-2's. The use of ECOMP is not mandatory, but it is Coast Guard's preferred method of reporting injuries to DOL. After an employee reports a job-related injury to their supervisor, the supervisor should call the Department of Homeland Security Injury Reporting Hotline at 1-844-347-7787. The hotline is staffed by Injury Care Coordinators 24 hours a day, 7 days a week.

E. Electronic Reporting of Occupational Injuries and Illnesses (eMISREP).

1. Reference (ww) requires that Coast Guard keep a record of civilian employees who have sustained OSHA-recordable occupational injuries and illnesses. OSHA-recordable injuries and illnesses involve restricted work activity, job transfer, days away from work, loss of consciousness, medical treatment beyond first aid, a needlestick injury, or a work-related Standard Threshold Shift hearing loss. Other significant injuries or illnesses as diagnosed by a healthcare professional (such as a chronic irreversible disease, fractured toe or rib or a punctured eardrum) are included.

2. First aid is defined as use of a non-prescription medication at non-prescription dosages; immunizations; cleaning surface skin wounds; covering a wound with a bandage, gauze pads, or butterfly bandages or Steri-Strips™; use of hot or cold therapy; use of a non-rigid support, such as elastic bandages, finger guards, and temporary immobilization with a splint during transport; drilling of a fingernail to relieve pressure; draining fluid from a blister; removing foreign bodies from the eye by irrigation and use of eye patches; removing splinters by tweezers; or drinking fluids for relief of heat stress.

3. OSHA requires employers to keep a separate log of occupational injuries and illnesses for each of its establishments. An establishment is defined as a single physical location where business is conducted or where services or industrial operations are performed. Coast Guard does not

sanction the use of local paper or local electronic OSHA 300 logs (OSHA 301 paper logs are required for civilian employees as per Chapter 13-F-1 below). OSHA-recordable occupational injuries and illnesses must be entered into the Coast Guard electronic Mishap Reporting system (eMISREP) and should have a corresponding CA-1 or CA-2 form completed. The Coast Guard electronic Mishap report should be initiated by either the employee's first-line supervisor or a Coast Guard Medical Officer. OSHA 300 printouts for the current year at the time of an unannounced or announced OSHA worksite inspection and for the annual OSHA 300A summary reports may be obtained from eMisRep. Annual OSHA 300A summary reports must be posted at the workplace every year from 1 February to 30 April.

F. Reporting and Recording Timelines.

1. OSHA-Mandated Timelines for Coast Guard Civilian Employees.

a. OSHA 301 Form. Reference (ww) requires that civilian work-related injuries and illnesses be recorded on a paper OSHA 301 form within 7 days of receiving information that a recordable injury or illness has occurred. Coast Guard requires that these recordable injuries and illnesses also be entered into eMISREP. (See Table 6-1)

b. Telephonic Reporting. For serious events (such as a fatality or hospitalization), OSHA has an additional reporting requirement wherein the OSHA Area Office or central OSHA office must be informed of the event by telephone or the event must be electronically reported to OSHA. The toll-free OSHA central number is 1-800-321-6742 and the OSHA electronic reporting website is https://www.osha.gov/report.html. If the OSHA Area Office is closed, then the event must be reported using the toll-free number of the website. (See Table 6-1)

Table 6-1. OSHA Reporting Requirements (Coast Guard Civilian Employees Only)

Type of Work-related Incident	When to Report to OSHA*	Record on OSHA 301 form**
Fatality which occurs within 30 days of a work-related incident	Within 8 hours	Within 7 days
Hospitalization, amputation, loss of an eye of a worker which occurs within 24 hours of a work-related incident	Within 24 hours	Within 7 days
Other recordable injuries or illnesses	N/A	Within 7 days

*Report to OSHA Area Office by telephone, to the toll-free OSHA central telephone number, or electronically via www.osha.gov; **This paper form will be completed and kept at the unit.

2. Coast Guard-Mandated Timelines.

Reference (h) provides required timelines for reporting occupational injuries and illnesses which applies to both Coast Guard members and Coast Guard civilians. The Coast Guard National Command Center does **not** inform OSHA of these events, so if a civilian employee is involved a call will likely need to be made both to OSHA and the Coast Guard National Command Center.

The telephone number of the Coast Guard National Command Center is (202) 372-2100. See Table 6-2 below for specifics.

Table 6-2. Coast Guard Reporting Requirements (Coast Guard Civilian Employees and Coast Guard Members)

Type of Work-related Incident based on Mishap Class	When to Report to National Command Center	When to Enter in eMisRep
Resulting in a fatality or permanent total disability	Within 1 hour	Within 12 hours
Resulting in permanent partial disability	Within 1 hour	Within 12 hours
Injury of illness resulting in one or more days away from work, placement on limited duty or restricted duty status, or transfer to a different job. Injury or illness requiring treatment beyond first aid by a medical professional	N/A	If there is a high potential to result in a catastrophic loss (e.g. fatality or severe injury), then enter within 72 hours

G. Local Policy. All commands must have a policy in place that informs employees on what to do when there is an injury or illness including when and how to summon medical assistance. Arrangements should be made by the supporting Coast Guard clinic for contingencies for emergency care at all times of the workday and for when the severity of the injury or illness exceeds the capability of the local Coast Guard clinic (e.g., calling 911).

<table>
<tr><td rowspan="2">Coast Guard</td><td>Examination Checklist for Exposure to:
ASBESTOS-Current Exposure</td></tr>
<tr><td>DO or COMPLETE THESE ITEMS</td></tr>
<tr><td rowspan="3">Baseline and Acute Exposure Examination Forms</td><td>Occupational Medical History and Examination (CG-6010E)</td></tr>
<tr><td>Asbestos Exposure Part 1 – Initial Medical Questionnaire (DD-2493-1)</td></tr>
<tr><td>Respirator Questionnaire (CG-6010F) (for civilian workers and confirmation of fitness for full duty for Coast Guard members)</td></tr>
<tr><td rowspan="3">Annual and End of Exposure Examination Form</td><td>Occupational Medical History and Examination Form (CG-6010E)</td></tr>
<tr><td>Asbestos Exposure Part 2 – Periodic Medical Questionnaire (DD-2493-2)</td></tr>
<tr><td>Respirator Questionnaire (CG-6010F) (for civilian workers and confirmation of fitness for full duty for Coast Guard members)</td></tr>
<tr><td>Additional Acute Exposure Examination Form</td><td>Acute Exposure Information (CG- 6000-1)</td></tr>
<tr><td rowspan="5">Examination Components for all Types of Examinations Including Acute Exposure</td><td>Physical examination</td></tr>
<tr><td>Spirometry test (FVC and FEV1)*</td></tr>
<tr><td>Chest x-ray (PA). Initial and end of exposure CXR as well as additional CXRs per schedule below:
<table>
<tr><td rowspan="2">Years Since First Exposure</td><td colspan="3">Age</td></tr>
<tr><td>15 to 34</td><td>35 to 44</td><td>45+</td></tr>
<tr><td>0-10</td><td>Every 5 years</td><td>Every 5 years</td><td>Every 5 years</td></tr>
<tr><td>Over 10</td><td>Every 5 years</td><td>Every 2 years</td><td>Annually</td></tr>
</table></td></tr>
<tr><td>Summary Report (CG-6010C) – to be given to employee</td></tr>
<tr><td>Written Opinion (CG-6010B) – to always be given to employee; to be given to unit CO and XO/XPO if work-related injury, exposure contraindications, or workplace restrictions are recommended</td></tr>
</table>

*Is to be performed by a physician or a person who has completed a spirometry training course sponsored by an appropriate academic or professional institution.

Medical examinations will be provided upon enrollment, at least annually thereafter throughout the duration of exposure, at end of exposure, and following an acute exposure in an employee who is not enrolled in the asbestos medical surveillance program.

Medical and work history will pay particular attention to smoking history, symptoms of dyspnea on exertion, recurrent epigastric discomfort, pleuritic chest pains and unexplained cough.

A complete physical examination will be performed with emphasis on the respiratory (examine for findings of bibasilar rales and clubbing) and cardiovascular systems, and digestive tract.

All chest x-rays will be interpreted and classified in accordance with the ILO-U/C classification system for pneumoconiosis and recorded on the Chest Radiograph Classification, Form CDC/NIOSH 2.8 (E). Interpretation will be completed by a B-reader, a board eligible/certified radiologist, or an experienced physician with known expertise in pneumoconiosis using the ILO-U/C International Classification of Radiographs for Pneumoconiosis reference set.

Inform worker of increased risk of lung cancer due to the combined effect of smoking and asbestos exposure.

Continued on page 2

Page 2 of Examination Checklist for Exposure to: ASBESTOS-Current Exposure

Exposure Effects: Asbestos exposure can cause asbestosis, lung cancer, mesothelioma, and less likely gastrointestinal and colorectal cancer. Most cases of lung cancer or asbestosis in asbestos workers occur 15 or more years after initial exposure to asbestos. Mesothelioma has a much longer latency period of approximately 30 or more years. Disease risk is dose dependent. There is a synergistic effect between asbestos exposure and cigarette smoking, so that the risk of lung cancer is roughly ten times greater in asbestos-exposed workers who smoke as opposed to nonsmoking asbestos-exposed workers. The primary route of exposure is inhalation, though ingestion of fibers may also occur.

OSHA Standards for Asbestos Exposure in Shipyards (29 CFR 1915.1001), Construction (29 CFR 1926.1101, and General Industry (29 CFR 1910.1001) are available at:
https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10287
https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10862
https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9995

Coast Guard	Examination Checklist for Exposure to: ASBESTOS-Past Exposure
	DO or COMPLETE THESE ITEMS
Periodic and End of Employment Examination Forms	Occupational Medical History and Examination (CG-6010E)
	Asbestos Exposure Part 2 – Periodic Medical Questionnaire (DD-2493-2)
Examination Components	Physical examination
	Spirometry test (FVC and FEV1)*
	Chest x-ray (PA)
	Summary Report (CG-6010C) – to be given to employee
	Written Opinion (CG-6010B) – to always be given to employee; to be given to unit CO and XO/XPO if work-related injury, exposure contraindications, or workplace restrictions are recommended

*Is to be performed by a physician or a person who has completed a spirometry training course sponsored by an appropriate academic or professional institution.

This examination protocol is to be used for workers who previously were included in the Asbestos OMSEP program but are not longer exposed to levels of asbestos requiring medical surveillance per the OSHA medical standard. Periodic examinations will be performed based on the following examination schedule:

0-10 Years since First Exposure	**More than 10 years since first Exposure**	
Examination every 5 years	**15-34 years old**	**Exam every 5 years**
	35 to 44 years old	**Exam every 2 years**
	45 and older	**Exam every year**

Medical and work history will pay particular attention to smoking history, symptoms of dyspnea on exertion, recurrent epigastric discomfort, pleuritic chest pains and unexplained cough.

A complete physical examination will be performed with emphasis on the respiratory (examine for findings of bibasilar rales and clubbing) and cardiovascular systems, and digestive tract.

All chest x-rays shall be interpreted and classified in accordance with the ILO-U/C classification system for pneumoconiosis and recorded on the Chest Radiograph Classification, Form CDC/NIOSH 2.8 (E). Interpretation will be completed by a B-reader, a board eligible/certified radiologist, or an experienced physician with known expertise in pneumoconiosis using the ILO-U/C International Classification of Radiographs for Pneumoconiosis reference set.

Inform worker of increased risk of lung cancer due to the combined effect of smoking and asbestos exposure.

Exposure Effects: Asbestos exposure can cause asbestosis, lung cancer, mesothelioma, and less likely gastrointestinal and colorectal cancer. Most cases of lung cancer or asbestosis in asbestos workers occur 15 or more years after initial exposure to asbestos. Mesothelioma has a much longer latency period of approximately 30 or more years. Disease risk is dose dependent. There is a synergistic effect between asbestos exposure and cigarette smoking, so that the risk of lung cancer is roughly ten times greater in asbestos-exposed workers who smoke as opposed to nonsmoking asbestos-exposed workers. The primary route of exposure is inhalation, though ingestion of fibers may also occur.

Coast Guard	**Examination Checklist for Exposure to: BENZENE**
	DO or COMPLETE THESE ITEMS
Baseline, Annual, Acute Exposure, and End of Exposure Examination Form	Occupational Medical History and Physical Examination (CG-6010E)
Additional Acute Exposure Examination Form and Examination Components	Acute Exposure Information (CG-6000-1)
	End of shift urinary phenol (Urine specimen will be tested within 72 hours of collection; order as "Benzene OSHA Exposure Panel")*
Examination Components for all Types of Examinations Including Acute Exposure	Physical examination
	Complete blood cell count with differential, platelet count and red blood cell indices (MCV, MCH, MCHC).
	Spirometry test with evaluation of the cardiopulmonary system is to be performed every 3 years if uses a respirator 30 days per year†
	Summary Report (CG-6010C) – to be given to employee
	Written Opinion (CG-6010B) – to be given to employee; to be given to unit CO and XO/XPO if work-related injury, exposure contraindications, or workplace restrictions are recommended

*If urinary phenol test result is 75 mg/L or greater adjusted to a specific gravity of 1.024 (adjustment is performed by the clinical laboratory) then contact CG Occupational Medicine physician (or his/her designee) and cognizant SEHO and obtain monthly CBC with differential and platelet count for next three months

†Must be performed by a licensed physician or a person who has completed a spirometry training course sponsored by an appropriate governmental, academic or professional institution.

Medical examinations will be provided upon enrollment, at least annually thereafter throughout the duration of exposure, following an acute exposure, and at end of exposure.

Medical and Work History will Include:

1. Past occupational exposure to benzene or any other hematological toxins, at work or at home.
2. A family history of blood dyscrasias, including hematological neoplasms (for military members only).
3. A personal history of blood dyscrasias, including hemoglobin abnormalities, bleeding abnormalities, abnormal function of formed blood elements; and renal or liver dysfunction.
4. A history of medicinal drugs routinely taken.
5. History of previous exposure to ionizing radiation and marrow toxins such as chemotherapeutic agents outside of the current work situation
6. Smoking history and alcohol usage history.
7. Any current history of headache, difficulty concentrating, decreased attention span, short-term memory loss, mood lability, fatigue, dry skin, abnormal bleeding, anemia, or weight loss.

A complete physical examination will be performed with special emphasis on mental status changes, dermatitis, and pallor.

Exposure Effects. Benzene exposure can cause central nervous system depression, pancytopenia, aplastic anemia and leukemia. The primary route of exposure is inhalation of vapors, though skin absorption may also occur.

Continued on page 2

Page 2 of Examination Checklist for Exposure to: BENZENE

Refer to a Hematologist if Any of the Following are Present:

1. Thrombocytopenia.
2. Decreasing trend over time in white cell count, red cell count, or platelets is more worrisome than an isolated abnormal finding at one test time. Need to compare test results to baseline and/or previous periodic tests. Abnormalities in the more than one blood index are more significant than a single abnormality.
3. Anemia, leukopenia, macrocytosis or an abnormal differential white blood cell count. Helpful follow-up tests may include a peripheral blood smear and reticulocyte count.
4. Reticulocyte counts that are low (less than 0.4% of red cells) more so than high (greater than 2.5% of red cells).
5. Peripheral blood smear or differential count findings suspicious for benzene toxicity include:
   - An increase in the proportion of bands.
   - Presence of metamyelocytes.
   - Upward trend in the number of basophils.
   - Rise in the eosinophil count (this is less specific, but may be suspicious of toxicity if this rises above 6.0% of the total white count).
   - A persistent increase in the percentage of monocytes (more than 10 to 12% of the normal white blood cell count when the total count is normal) or persistence of an absolute monocyte count in excess of 800/mm3.

Findings Predictive of Subsequent Development of Leukemia:

1. "Pseudo" (acquired, non-hereditary) Pelger-Huet Anomaly wherein many neutrophilic granulocytes possess two to three round nuclear segments rather than three normally elongated segments.
2. Depression of one or more blood cell types or platelets. The finding of two or more cytopenias or pancytopenia must be regarded as highly suspicious of more advanced, although still reversible, toxicity.
3. Basophilic stippling in circulating red blood cells (usually found in 1 to 5% of red blood cells following marrow injury).

Either a decline below normal laboratory values or an individual's baseline values for these tests (or less frequently a rise to a supra-normal value) are indicative of potential toxicity. The white count may be higher among cigarette smokers, those with infections or allergies, and due to some medications.

Medical Removal and Referral to a Hematologist are Required for Any of the Following *(after confirmation by repeat testing within 2 weeks):*

- Hemoglobin or hematocrit less than lower limit of normal or show a persistent downward trend from baseline (provided that these findings cannot be explained by another medical cause).
- Platelet count is less than lower limit or normal or falls to more than 20% below most recent value.
- Leukocyte count is less than 4,000 per mm^3 or there is an abnormal differential count.

The OSHA Benzene Standard (29 CFR 1910.1028) is available at:
https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10042

Coast Guard	Examination Checklist for Exposure to: BLOODBORNE PATHOGENS
	DO or COMPLETE THESE ITEMS
Baseline Examination Form and Examination Components	Chronological Record of Medical Care (SF-600): Document information regarding hepatitis B vaccination status at baseline, or hepatitis B vaccination or documentation of employee's refusal to receive hepatitis B vaccination
Post-Exposure Examination Form and Examination Components	Acute Exposure Information (CG-6000-1) (OR documentation of pertinent information on an SF-600) and Blood Borne Pathogen Exposure Guidelines (CG-6201)
	Report event in eMisRep if a needlestick injury
	Summary Report (CG-6010C) – to be given to employee
	Written Opinion Form (CG-6010B) – to be given to employee; to be given to unit CO and XO/XPO if work-related injury, exposure contraindications, or workplace restrictions are recommended

Baseline Evaluation: will include documentation of complete Hepatitis B vaccination series or titer confirming immunity or documentation of the employee's refusal to receive Hepatitis B vaccination. Civilian personnel who decline to receive Hepatitis B vaccination must sign the following statement on a Chronological Record of Care, Form SF-600: *I understand due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring Hepatitis B virus infection. I have been given the opportunity to be vaccinated with the Hepatitis B vaccine, at no charge to myself. However, I decline Hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring Hepatitis B, a serious disease. If, in the future, I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with the Hepatitis B vaccine, I can receive the vaccination series at no charge to me.*

Post-exposure Examination: must follow post-exposure guidelines described by current Centers for Disease Control and Prevention guidance.

Exposure Effects: Bloodborne pathogens are pathogenic microorganism present in the blood of humans which are able to cause human disease. The primary bloodborne pathogens are Human Immune Deficiency Virus (HIV), Hepatitis B, and Hepatitis C.

Exposure is through needlestick injuries, splash to the eye or mouth, contact with a large amount of blood or prolonged contact with blood on chapped, abraded, or otherwise open skin.

Since the potential for infectivity of a patient's blood or body fluids is not routinely known, it is essential that all workers conform to "universal precautions". "Universal Precautions" is defined as an approach to infection control where all human blood and body fluids are treated as if known to be infectious for bloodborne pathogens. Specimens that entail "universal precautions" are all excretions, secretions, blood, body fluid, and any drainage. Personnel should protect themselves from contact with these specimens by using the appropriate barrier precautions to prevent cross-transmission and exposure of their skin and mucous membranes, especially the eyes, nose, and mouth.

The OSHA Bloodborne Pathogen Standard (29 CFR 1910.1030) is available at:
https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10051

Coast Guard	Examination Checklist for Exposure to: CADMIUM
	DO or COMPLETE THESE ITEMS
Baseline, Periodic, Acute Exposure, End of Employment Examination Form	Occupational Medical History and Examination (CG-6010E)
Additional Acute Exposure Examination Form and Examination Components	Acute Exposure Information (CG-6000-1)
	Blood cadmium as soon as possible following exposure
Biomonitoring tests	Urine cadmium*, urine β-2 microglobulin*, blood cadmium
Baseline, Periodic, End of Employment, and Acute Exposure Examination	Physical examination
	Complete blood cell count, BUN, creatinine, liver function tests (AST, ALT, total bilirubin and alkaline phosphatase), and urinalysis without microscopic examination
	Urine cadmium*, urine β-2 microglobulin*, blood cadmium.
	Spirometry test (FVC and FEV1)
	PA Chest x-ray *(baseline, end of employment and for clinical indication only)*
	Palpation of the prostate for males over age 40 and Blood pressure
	Summary Report (CG-6010C) – to be given to employee
	Written Opinion (CG-6010B) – to be given to employee; to be given to unit CO and XO/XPO if work-related injury, exposure contraindications, or workplace restrictions are recommended

Urine specimens that are too dilute (specific gravity less than 1.008) may result in non-detectable test results. Urine specimens with a pH less than 5.5 may have caused beta-2 microglobulin to degrade while in the bladder resulting in artificially lower levels.

Medical examinations will be provided upon enrollment, one year after enrollment, at least biennially thereafter throughout the duration of exposure, and at end of employment. Biomonitoring will be provided at least annually during exposure. **If urine cadmium is greater than 3 µg/g urine creatinine, blood cadmium is greater than 5 µg/L, or urine β-2-microglobulin is greater than 300 µg/g urine creatinine, then perform medical examinations per schedule below.**

	LOW RISK CATEGORY*	MEDIUM RISK CATEGORY*	HIGH RISK CATEGORY*
	Medical exam one year after initial exam and then every 2 years. Annual biomonitoring.	Medical exam and biomonitoring within 90 days with discretionary medical removal. Biomonitoring every 6 months and annual exams until urine cadmium ≤ 3 µg/g urine creatinine, blood cadmium ≤ 5 µg/L and urine β-2 microglobulin ≤ 300 µg/g urine creatinine.	Medical exam and biomonitoring within 90 days. Biomonitoring every 3 months and exams every 6 months until urine cadmium ≤ 3 µg/g urine creatinine, blood cadmium ≤5 µg/L and urine β-2 microglobulin ≤ 300 µg/g urine creatinine.
Urine cadmium	≤ 3 µg/g urine creatinine	≤ 7 µg/g urine creatinine	> 7 µg/g urine creatinine
Blood cadmium	≤5 µg/L	≤ 10 µg/L	> 10 µg/L
Urine β-2-microglobulin	≤ 300 µg/g urine creatinine	≤ 750 µg/g urine creatinine	> 750 µg/g urine creatinine

** Risk Categories: Low risk category is defined as low levels of all three biomonitoring test results as per the table; High risk category is defined as an elevated level of one or more of the three biomonitoring test results as per the table; Medium risk category is defined by all three biomonitoring test results greater than low risk category and none within the high risk category.*

Continued on page 2

Page 2 of Examination Checklist for Exposure to: CADMIUM

Medical and Work History will Include:

1. Past and current occupational exposures to cadmium; reproductive history; and history of renal, cardiovascular, respiratory, hematopoietic, or musculoskeletal dysfunction;
2. Smoking history and current use of medications with potential nephrotoxic side effects; and
3. Any past or current history of shortness of breath, wheezing, and/or cough.
4. For an acute exposure examination, history should include symptoms of fever and chest pain.

A complete physical examination will be performed with attention to the blood pressure and the urinary and respiratory systems. The examination will include the following biomonitoring tests: urine cadmium (in micrograms per gram urine creatinine), blood cadmium (in micrograms per liter blood), and urine beta-2-microglobulin (in micrograms per gram urine creatinine).

Exposure Effects: Acute exposure to high levels of cadmium fumes may result in symptoms of fever, headache, chills, muscle pain, and chest pain soon after exposure; acute pneumonitis 10 to 24 hours after exposure; and pulmonary edema one to three days after exposure. Chronic health effects include lung and prostate cancer, kidney disease with proteinuria, emphysema and liver damage. The primary route of exposure is through inhalation. Cadmium is stored in the liver and kidney for years.

Medical Removal is Required for Any of the Following:

- Urine cadmium greater than 7 µg/g urine creatinine
- Blood cadmium greater than 10 µg/L
- Beta-2 microglobulin greater than 750 µg/g urine creatinine WITH urine cadmium greater than 3 µg/g urine creatinine or blood cadmium greater than 5 µg/L.

The OSHA Cadmium Standard (29 CFR 1910.1027) is available at:
https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10035

Coast Guard	**Examination Checklist for Exposure to: CHROMIUM (Hexavalent)**
	DO or COMPLETE THESE ITEMS
Baseline, Annual, Acute Exposure, For Cause, End of Employment Examination Form	Occupational Medical History and Examination (CG-6010E)
Additional Acute Exposure Examination Form and Examination Components	Acute Exposure Information (CG-6000-1)
	Urine total chromium (micrograms/g creatinine) at end of shift
Examination Components for All Types of Examinations Including Acute Exposure	Physical examination
	Complete blood cell count with differential and red blood cell indices (MCV, MCH, MCHC), BUN, creatinine, liver function tests (AST, ALT, total bilirubin, alkaline phosphatase)
	Urinalysis with microscopic examination
	Spirometry test (FVC and FEV1)
	PA Chest x-ray *(baseline, end of employment, for clinical indication, and also offered to the employee at time of annual examination)*
	Summary Report (CG-6010C) – to be given to employee
	Written Opinion (CG-6010B) – to be given to employee; to be given to unit CO and XO/XPO if work-related injury, exposure contraindications, or workplace restrictions are recommended.

Medical examinations will be provided upon enrollment, at least annually thereafter throughout the duration of exposure, following an acute exposure, for signs or symptoms of adverse health effects associated with hexavalent chromium exposure (i.e. for cause), and at end of employment.

Medical and Work History will Include:

1. Past, current and anticipated future exposures to chromate, asbestos, and/or any other pulmonary carcinogens at work and/or at home;
2. Smoking history and alcohol usage history; and,
3. Any past or current history of dry skin, skin ulcers, nosebleeds, nasal septal perforation, asthma, shortness of breath, wheezing, and cough.

A complete physical examination will be performed with emphasis on the skin, mucous membranes, and upper and lower respiratory tract. The examination will include inspection of the skin for dermatitis and dermal ulcerations, nasal mucosa and nasal septum, and examination of the lungs.

Exposure Effects: Hexavalent chromium compounds may cause lung, nasal and sinus cancer as well as contact dermatitis, painless skin ulceration, occupational asthma, nasal septum perforation, and kidney and liver damage.

The primary routes of exposure are inhalation and dermal absorption. Chromates may be found in certain metal alloys (such as stainless steel), paints, and masonry cements. Within the Coast Guard, most chromate exposure is from the use of chromium-containing paints.

The OSHA Hexavalent Chromium Standard (29 CFR 1910.1026) is available at:
https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=13096

Coast Guard	**Examination Checklist for Exposure to: HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE**
	DO or COMPLETE THESE ITEMS
Baseline, Annual, Acute Exposure, End of Exposure Examination Form	Occupational Medical History and Examination (CG-6010E)
Additional Acute Exposure Form and Examination Components	Acute Exposure Information (CG-6000-1)
	Urine and blood samples for metals and other exposures as appropriate collected within 24 hours of exposure*
Examination Components for All Types of Examinations Including Acute Exposure	Physical examination
	Complete red blood cell count with differential and red blood cell indices (MCV, MCH, MCHC)
	BUN, creatinine, liver function tests (AST, ALT, GGT, alkaline phosphatase, total bilirubin, total protein, and albumin)
	Urinalysis with microscopic examination
	Lipid panel (total cholesterol, LDL-cholesterol, HDL-cholesterol, triglycerides) *(at baseline and age 40 only)*
	Spirometry test (FVC and FEV1)
	Audiogram and vision screening *(not included in acute exposure examination)*
	Electrocardiogram *(baseline and age 40 only)*
	PA Chest x-ray *(baseline, end of exposure, and for clinical indication only)*
	Summary Report (CG-6010C) – to be given to employee
	Written Opinion (CG-6010B) – to be given to employee; to be given to unit CO and XO/XPO if work-related injury, exposure contraindications, or workplace restrictions are recommended.

* Lipid panel and electrocardiogram are to be used to assess cardiovascular risk associated with use of a fully encapsulating suit with SCBA.

Medical examinations will be provided upon enrollment, at least annually thereafter throughout the duration of exposure, following an acute exposure, and at end of exposure.

Medical and Work History will Include:

1. Past and current occupational exposure to hazardous chemicals, metals, dusts, fumes, ionizing radiation, and heat stress.
2. Any history of heat illness, allergies, sensitivities, or physical abnormalities.
3. Current medications and immunization history.
4. Smoking history and alcohol usage history.
5. A complete review of organ systems.

A complete physical examination will be performed with emphasis on the skin, eyes, nose, throat, thyroid, and respiratory, cardiovascular, genitourinary, and neurologic systems.

Continued on page 2

Page 2 of Examination Checklist for Exposure to: HAZARDOUS WASTE OPERATIONS AND EMERGENCY RESPONSE

For workers exposed to high levels of ionizing radiation, please refer to the Ionizing Radiation exposure protocol for additional examination elements and medical clearance requirements.

Exposure Effects: The OSHA medical surveillance protocol for hazardous waste operations and emergency response involves medical surveillance for potential exposure to numerous metals and chemicals, usually in uncontrolled spill, fire, and disposal situations. Exposures may include chemicals, fire, oxygen deficiency, ionizing radiation, biologic hazards, electrical hazards, heat stress, cold exposure and noise. Due to the number of potential exposures and combinations of exposures, specific exposure effects cannot be described here. Primary routes of exposure are through inhalation and dermal absorption.

The OSHA Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.1028) is available at: https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9765

Coast Guard	**Examination Checklist for Exposure to: IONIZING RADIATION** **DO or COMPLETE THESE ITEMS**
Baseline, Periodic, Acute Exposure and End of Exposure Examination Form	Occupational Medical History and Examination (CG-6010E)
Additional Acute Exposure Form	Acute Exposure Information (CG-6000-1)*
Examination Components for All Types of Examinations Including Acute Exposure	Physical examination
	Complete blood cell count with differential
	Urinalysis without microscopic examination
	Breast examination for females over the age of 40 Digital rectal examination for males over the age of 40
	Summary Report (CG-6010C) – to be given to employee
	Written Opinion (CG-6010B) – to be given to employee; to be given to unit CO and XO/XPO if work-related injury, exposure contraindications, or workplace restrictions are recommended

* Information collected should include as per NAVMED 6470/10: Place where exposure occurred, calendar start and end dates for that exposure, and rem dose information to three decimal places for the following exposures during that period of time (if film badge readings are not used, specify source for estimates e.g. pocket dosimeters, air monitoring, bioassays). For each exposure, the following is required:

- Shallow Dose Equivalent = external exposure to skin at tissue depth of 0.007 cm or 7 mg/cm^2
- Deep Dose Equivalent Photon = external exposure from photon radiations (x and gamma rays) at tissue depth of 1 cm or 1000 mg/cm^2
- Deep Dose Equivalent Neutron = external exposure from neutron radiation at tissue depth of 1 cm or 100 mg/cm^2
- Committed Effective Dose Equivalent = exposure from internally deposited radionuclides
- Total Effective Dose Equivalent = sum of deep dose equivalents and internal exposure
- Lifetime Total Effective Dose Equivalent = sum of current and previous Total Effective Dose Equivalents

Medical examinations will be provided upon enrollment, at least periodically thereafter throughout the duration of exposure, following an acute exposure, and at end of exposure. Periodic examinations will be performed every 5 years up to the age of 50, every 2 years from age 50 to 59, and then annually from age 60 and over.

Medical and Work History will Include:

1. History of accidental or occupational exposure to ionizing radiation
2. History of cancer or hematuria
3. History of radiation therapy or radiopharmaceutical use
4. History of work involving handling of unsealed sources
5. Significant illness or changes in medical history since the last ionizing radiation examination

A complete physical examination will be performed with emphasis on the thyroid gland, abdomen, liver, and lymph nodes. The examination should include a breast examination for females age 40 and over, and a digital rectal (prostate) examination for males age 40 and over.

Medical Clearance: At the time of every examination, the Medical Officer/Healthcare Provider must make a medical determination on the Written Opinion as to whether it is safe for the worker to begin or continue work involving ionizing radiation.

Continued on page 2

Page 2 of Examination Checklist for Exposure to: IONIZING RADIATION

Exposure Effects: Humans are exposed routinely to ionizing radiation from both natural sources, such as cosmic rays from the sun and indoor radon, and from manufactured sources, such as televisions and medical x-rays. Ionizing radiation is defined as any electromagnetic or particulate radiation capable of producing ions. This includes gamma rays, X-rays, alpha particles, beta particles, neutrons, and protons. The ionization process destroys the capacity for cell reproduction or division and causes cell mutation. Equipment or devices capable of generating ionizing radiation include medical and industrial radiographic equipment and any contraband material capable of generating ionizing radiation.

The onset of health effects range from immediate to delayed. Acute somatic effects which include bone marrow suppression and intestinal damage are relatively immediate and the severity is dose dependent. Delayed somatic effects, which include cancer, leukemia, cataracts, organ failure and abortion, have a severity which is dose independent but the probability of the effect may be proportional to the dose received. Genetic effects are conveyed to offspring due to teratogenic or genetic mutations with the severity being independent of the dose but the probability likely being proportional to the dose received.

Pregnant women are subject to regulations requiring reduced exposure limits**.** The main effects of ionizing radiation on the fetus are growth retardation, congenital malformations, fetal death and carcinogenesis. A pregnant women's pre-natal healthcare provider should be apprised early of any/all potential hazards and safety precautions available.

Medical Removal is Required for Any of the Following:

1. Abnormal hematocrit or white blood cell values confirmed with repeat testing, pending a complete evaluation by a Board Certified Hematologist. (The evaluation and consultation referrals for an abnormal blood cell count should be directed toward the possible diagnosis of a malignant or premalignant condition.)
2. Any persistent hematuria (> 3 red blood cells per High Power Field confirmed on a repeat urinalysis), pending a definitive diagnosis.
3. History of most cancers (fully excised basal cell carcinoma, squamous cell carcinoma, and colonic polyps are not considered disqualifying);
4. History of chemotherapy for a cancerous condition;
5. History of radiation therapy;
6. History of polycythemia vera;
7. History of leukemia
8. Open skin lesions (if exposed to controlled surface contamination areas or handling radioactive material which is not hermetically sealed).

Coast Guard	**Examination Checklist for Exposure to: LASERS (CLASS 3B and CLASS 4)**
	DO or COMPLETE THESE ITEMS
Baseline, Acute Exposure and End of Exposure Examination Form	Ocular and ophthalmologic history and examination components is to be documented in Service Treatment Record/Occupational Health Treatment Record.
Additional Acute Exposure Examination Form	Acute Exposure Information (CG-6000-1)
Examination Components for All Types of Examinations Including Acute Exposure	Ocular and visual history
	Best distant visual acuity with or without corrective lenses/pinhole test, each eye separately
	Central Visual Field Test via Amsler Grid Test, each eye separately*
	Color vision test (14-plate test Ishihara test), each eye separately†
	Fundoscopic examination by optometrist/ophthalmologist as per below
	Summary Report (CG-6010C) – to be given to employee
	Written Opinion (CG-6010B) – to be given to employee; to be given to unit CO and XO/XPO if work-related injury, exposure contraindications, or workplace restrictions are recommended

* See Enclosure 10 of the Coast Guard Occupational Medicine Manual for Amsler Grid Test.

† Normal Pseudo-isochromatic plate test result is 10/14 or better

Refer to an optometrist of ophthalmologist if any of the following is not present:

1. Corrected or uncorrected distant visual acuity is 20/20 or better in each eye
2. Color vision is normal in each eye
3. Amsler grid tests are normal in each eye
4. Ocular/visual history is normal

When referred to an optometrist or ophthalmologist, a dilated ocular fundoscopic examination and any other tests deemed appropriate to determine the cause for the abnormal test(s) will be performed. At the time of a baseline examination, the optometrist/ophthalmologist will provide the Medical Officer/Healthcare Provider with a report of all findings, responsible medical conditions(s), as well as a determination as to whether the individual is safe to work with Class 3B and Class 4 lasers. At the time of an exit examination, this healthcare professional will need to determine whether there are any eye findings which are likely due to prior exposure to Class 3B or Class 4 lasers.

Written Opinion:

- Baseline - will indicate whether employee is safe to begin to work in areas where exposed to Class 3B or 4 lasers
- End of Exposure - will indicate whether any eye injury due to Class 3B or 4 lasers is likely to have occurred

Continued on page 2

Page 2 of Examination Checklist for Exposure to: LASERS (CLASS 3B and CLASS 4)

Exposure Effects: Lasers (Light Amplification by Stimulated Emission of Radiation) is a type of non-ionizing radiation. Lasers are grouped into the following classes:

Class 1 Lasers: Considered to be incapable of producing damaging radiation levels.

Class 2 Lasers: Emit radiation in the visible portion of the spectrum. Protection is normally provided by an aversion response (blink reflex) to bright radiant sources. They may be hazardous if viewed directly for extended periods of time.

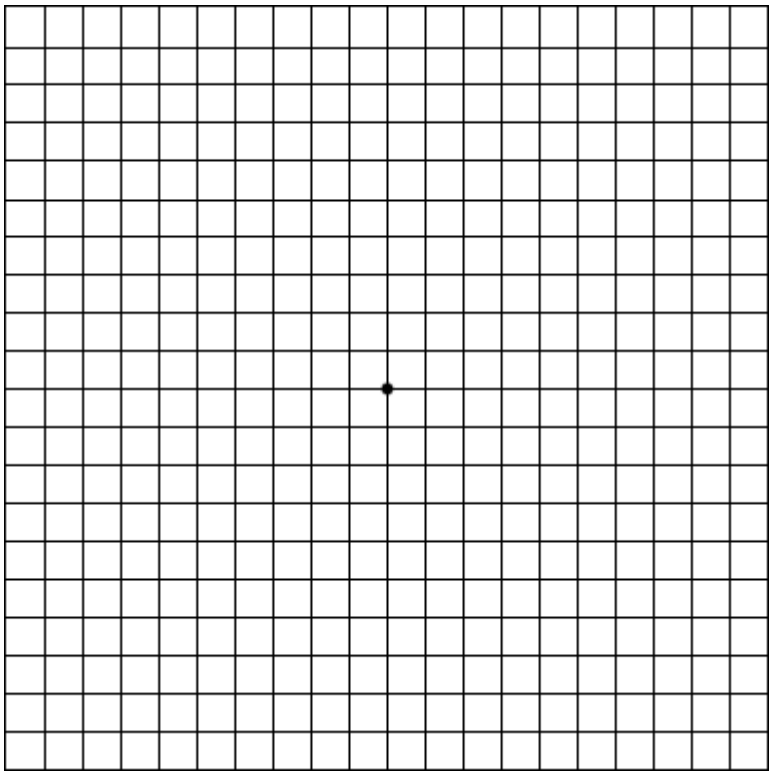
Class 3A Lasers: Normally will not produce injury if viewed only momentarily with the unaided eye. They may present a hazard if viewed using collecting optics, e.g., telescopes, microscopes, or binoculars.

Class 3B Lasers: Can cause severe eye injuries if beams are viewed directly or specular reflections are viewed.

Class 4 Lasers: Hazardous to the eyes from the direct beam and specular reflections and sometimes even from diffuse reflections. Eye damage includes temporary afterimage, flash blindness or glare, and permanent retinal injury. Skin damage may also occur.

AMSLER GRID TEST

Patients are to wear their reading glasses if they use them. Have the patient place grid at comfortable reading distance away. Have the patient cover one eye and focus on the dot in the center and repeat for the other eye. Ask the patient the questions below, for each eye separately.



RIGHT EYE:

1. Do any of the lines look wavy, blurred or distorted? (All lines should be straight, all intersections should form right angles and all squares should be the same size.)
2. Are there any missing areas or dark areas in the grid?
3. Can you see all corners and sides of the grid?

LEFT EYE:

1. Do any of the lines look wavy, blurred or distorted? (All lines should be straight, all intersections should form right angles and all squares should be the same size.)
2. Are there any missing areas or dark areas in the grid?
3. Can you see all corners and sides of the grid?

INTERPRETATION: A positive response to questions 1 or 2 or a negative response to question 3 constitutes a positive test result. Record test result in the Service Treatment Record/Occupational Health Treatment Record.

Coast Guard	**Examination Checklist for Exposure to: LEAD**
	DO or COMPLETE THESE ITEMS
Baseline, Acute Exposure, For Cause, End of Employment (and rare Annual) Examination Form	Occupational Medical History and Examination Form (CG-6010E)
Additional Acute Exposure Examination Form	Acute Exposure Information (CG-6000-1)
Examination Components for Blood lead and ZPP-only Examinations	Blood lead and ZPP level
	Summary Report (CG-6010C) – to be given to employee
	Written Opinion (CG-6010B) – to always be given to employee; to be given to unit CO and XO/XPO if work-related injury, exposure contraindications, or workplace restrictions are recommended
Examination Components for Baseline, Acute Exposure, For Cause, End of Employment (and rare Annual) Examinations	Physical examination including blood pressure
	Blood lead and Zinc Protoporphyrin (ZPP) tests
	Complete blood cell count with differential and red blood cell indices (MCV, MCH, MCHC), plus examination of peripheral smear morphology
	BUN and creatinine
	Urinalysis with microscopic examination
	Summary Report (CG-6010C) – to be given to employee
	Written Opinion (CG-6010B) – to be given to employee; to be given to unit CO and XO/XPO if work-related injury, exposure contraindications, or workplace restrictions are recommended

Medical examinations will be provided upon enrollment, following an acute exposure, at end of exposure, and for cause. For cause examinations will occur if an employee has signs or symptoms commonly associated with lead intoxication, desires medical advice concerning the effects of current or past lead exposures on their ability to procreate a healthy child, or has demonstrated difficulty in breathing while using a respirator.

An annual examination is to be performed if the blood lead level (BLL) was 20 µg/dL or greater during the previous 12 months. As periodic examinations are not regularly required for lead exposures, the date of the next required biomonitoring test will be used to establish the date of the next periodic examination in the currently used Medical Readiness database or other electronic tracking database.

Medical and Work History will Include:

1. Past lead exposure (occupational and non-occupational)
2. Personal habits (smoking, hand washing after work and before eating)
3. Past and current gastrointestinal, hematological, renal, cardiovascular, reproductive, and neurological problems

A complete physical examination will be performed with emphasis on ocular fundi, teeth, gums, and hematological, pulmonary, gastrointestinal, renal, cardiovascular and neurological systems.

Blood Lead (BLL) and ZPP Testing: will be performed at least every 6 months for all employees under medical surveillance for lead exposure; at least every 3 months if BLL is 10-29 µg/dL; and at least every month if BLL is 30 µg/dL or greater. BLL and ZPP tests will be performed within 4 weeks of potentially qualifying for medical removal due to a blood lead level of 20-29 µg/dL, within 2 weeks of receiving test results of a BLL 50 µg/dL or greater, monthly while in medical removal status, and every 3 months if last BLL was 10-19 µg/dL.

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Page 2 of Examination Checklist for Exposure to: LEAD

The blood lead test must be conducted by a laboratory approved by the College of American Pathologists, New York State Department of Health, or Wisconsin State Laboratory of Hygiene based on the most recent 12 months of testing. To minimize laboratory error and erroneous results due to contamination, blood lead specimens must be carefully collected after thorough cleaning of the skin with appropriate methods and using lead-free blood containers.

The ZPP level is influenced by lead absorption over the preceding 3 to 4 months, and therefore is a better indicator of lead body burden. In comparison, the BLL is a good index of current or recent lead absorption since most lead in the blood is deposited and stored in the bones and soft tissue within 30 days. ZPP reflects the inhibition of the enzyme ferrochelatase (a biological effect of lead) but may also be due to iron deficiency anemia and anemia of chronic disease. Another, protoporphyrin, erythrocyte protoporphyrin (EPP), is used to detect lead poisoning for non-occupational exposures. OSHA mandates testing with ZPP and not EPP.

Exposure Effects: In adults, excessive lead exposure can cause hypertension, anemia, peripheral neuropathy, encephalopathy, kidney damage, spontaneous abortions in women, and decreased fertility in men. The primary route of exposure in adults is inhalation of lead-containing dust or fumes. However, ingestion and dermal exposure are also possible. Lead can pass through the placental barrier and lead levels in the mother's blood are comparable to the concentrations of lead in fetal blood. Additional information regarding health effects are in Chapter 2-C-10 of the Occupational Medicine Manual

Medical Removal is Required for Any of the Following:

1. BLL greater than or equal to 30 µg/dL. The employee will not be returned to hazardous work until two consecutive blood lead levels one month apart are less than 15 µg/dL.
2. BLL 20 to 29 µg/dL if a second BLL within 4 weeks is 20 µg/dL or greater. The employee will not be returned to hazardous work until two consecutive BLL one month apart are less than 15 µg/dL.
3. Pregnant or lactating Coast Guard military members. [If possible, civilian employees who are pregnant or lactating will also be reassigned to job positions with no lead exposure.] General medical recommendations are that the BLL in pregnant or lactating women should not exceed 5 µg/dL.

For BBL of 10-19 µg/dL:

1. Discuss with the employee their work practices, work exposures and potential non-occupational exposures.
2. Alert CO and XO/XPO or comparable civilian unit leadership and recommend that engineering controls (such as ventilation) and work practices (such as respirator use and handwashing) be evaluated and improved.

The OSHA Lead Standard (29 CFR 1910.1025) is available at:
https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10030

Coast Guard	**Examination Checklist for Exposure to: OCCUPATIONAL NOISE**
	DO or COMPLETE THESE ITEMS
Baseline and Acute Exposure Examination Form	Reference Audiogram (DD-2215)
Annual and End of Exposure Examination Form	Hearing Conservation Data (DD-2216). Also complete Reference Audiogram (DD-2215) if an STS hearing loss is present.
Additional Acute Exposure Examination Form	Acute Exposure Information (CG-6000-1)
Examination Components for All Types of Examinations Including Acute Exposure	Audiogram
	Otoscopic examination *(for acute exposure and STS hearing loss)*
	Summary Report (CG-6010C) – to be given to employee
	Written Opinion (CG-6010B) – to be given to employee; to be given to unit CO and XO/XPO if work-related injury, exposure contraindications, or workplace restrictions are recommended.

An audiogram will be provided upon enrollment, at least annually thereafter throughout the duration of exposure, following an acute exposure and at end of exposure.

Baseline Audiogram: Will be preceded by at least 14 hours without exposure to workplace noise. Every effort will be made to schedule the employee reference audiogram so as to avoid conflicts with assigned duties. Hearing protectors that attenuate workplace noise below a TWA of 80 dBA may be used in place to total exclusion from the workplace to meet this requirement.

Forms: Baseline audiogram results will be recorded on Reference Audiogram, Form DD-2215; annual and end of exposure audiogram results will be recorded on Hearing Conservation Data, Form DD-2216. For a confirmed STS, audiogram results for the involved ear are recorded on a new Form DD-2215 with results of uninvolved ear transcribed from the prior DD-2215. The original/prior reference audiogram(s) will be retained in the patient's Standard Treatment Record/Occupational Health Treatment Record.

Acute Exposure Examination: will consist of an otoscopic examination, audiogram and completion of the Acute Exposure Information, Form CG 6000-1. If an STS hearing loss is present on the initial audiogram, follow up audiograms should be performed at 72 hours, 30 days and 60 days. Refer to an otolaryngologist for any of the following:

1. Otorrhea
2. Tympanic membrane perforation involving greater than 50 percent of the surface area or a smaller perforation which does not resolve within 8 weeks of the injury
3. Tinnitus that interferes with lifestyle or job performance regardless of hearing test results
4. Audiogram test results that show: Average hearing threshold greater than 30 dB for 500, 1000, and 2000 Hz; Hearing threshold greater than 35 dB at 500, 1000, or 2000 Hz; Hearing threshold greater than 45 dB at 3000 Hz; or Hearing threshold greater than 55 dB at 4000 Hz
5. Vertigo that does not resolve within 7 days of the injury
6. STS hearing loss that does not resolve within 72 hours of the injury

It is recommended that workers with an abrupt hearing loss due to acute acoustic trauma be removed from hazardous noise areas after the injury to facilitate recovery; duration will likely be less than one week but may be longer as recommended by the Medical Officer/Healthcare Provider or consulting otolaryngologist.

Continued on page 2

Page 2 of Examination Checklist for Exposure to: OCCUPATIONAL NOISE

Early Flag Warning: 15 dB loss at 1000, 2000, 3000 or 4000 Hz in either ear. No follow-up testing or referrals are required. However, the worker will be counseled on use of hearing protection.

Standard Threshold Shift: Exists if the average difference in 2000, 3000, and 4000 Hz compared to the baseline/reference audiogram is greater than or equal to ± 10 dB in either ear.

Negative STS: Exists if the STS shows an improvement in the hearing threshold compared to the reference audiogram. In the event of a negative STS, a single follow-up audiogram which may be performed on the same day as the annual audiogram, must be completed. If the STS is confirmed by the second audiogram, then results are used to establish a revised baseline.

Positive STS (STS Hearing Loss): Exists if the STS shows a worsening in the hearing threshold compared to the reference audiogram. Two noise-free follow-up audiograms must be performed to determine whether the hearing is permanent. The two follow-up tests must be preceded by a 14 hour noise-free interval, may be performed on the same day of each other, but must not be performed on the same day as the annual audiogram. In the event that the result of the first follow-up test does not confirm the STS, a second follow-up test is not required. Follow-up tests must be conducted within 30 days of an annual audiogram that shows a positive STS. In all cases where a positive STS is present the Medical Officer/Healthcare Provider shall perform an **otoscopic examination** and record results in the remarks section of the Hearing Conservation Data, Form DD-2216. Other relevant information such as a history of prior ear surgery will also be recorded there.

Required Actions for Any STS Hearing Loss: Once an STS hearing loss is identified, medical staff must enter the event into the eMisRep database. If follow-up tests no more than 30 days after the original test refute the STS hearing loss, then an eMisRep text message will be sent to the HSWL SC so that the eMisRep database can be corrected. The eMisRep database serves to fulfill mandatory OSHA recording and annual summary report posting requirements for civilian employees.

Required Actions for Any Permanent STS Hearing Loss: Workers are to be refitted and retrained on the use and care of hearing protectors, required to wear them in noise hazardous work areas, provided with hearing protectors offering greater attenuation if this is deemed necessary, and referred for a clinical audiological evaluation or an otological examination as appropriate. Workers with a temporary STS hearing loss will be counseled on the use of hearing protection.

Exposure Effects: The primary effect of excessive noise is to cause loss of hearing. Noise-induced hearing loss is painless, progressive, and permanent. However, at times, noise-induced hearing loss may be temporary (such as initially with chronic noise exposure and for an acute excessive noise exposure). In these cases, hearing recovers within hours (for chronic noise exposure) or days (for an acute exposure). For this reason, when a significant threshold hearing loss is identified, repeat audiograms must be completed on a subsequent day to confirm that the hearing loss is permanent. The occurrence of repeated temporary noise-induced hearing loss will eventually result in permanent hearing loss. Exposure to impact noise, noise greater than 140 dB, or explosions can cause acoustic trauma and subsequent abrupt hearing loss. Symptoms of acoustic trauma include sensorineural hearing loss, tinnitus, aural fullness, ear pain with loud noise, difficulty localizing sounds, and difficulty hearing in a noisy background. The associated sensorineural hearing loss may be either temporary or permanent. While the time frame for hearing recovery is unique in every case, any hearing loss that persists beyond 8 weeks after the injury is likely permanent. Complications may include tympanic membrane perforation, ossicular disruption, hemotympanum, and cerebral spinal fluid leaks.

OSHA Occupational Noise Exposure Standard (29 CFR 1910.95) is available at:
https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9735
Chapter 2-C-11 includes additional information on the requirements for audiometry testing and the calculation of an STS.

Coast Guard	**Examination Checklist for Exposure to: PESTICIDES (Herbicides)**
	DO or COMPLETE THESE ITEMS
Baseline, Annual, and Acute Exposure Examination Form	Occupational Medical History and Examination (CG-6010E)
Additional Acute Exposure Form	Acute Exposure Information (CG-6000-1)
Examination Components for all Types of Examinations Including Acute Exposure	Physical examination
	Spirometry test (FVC and FEV1)
	Summary Report (CG-6010C) – to be given to employee
	Written Opinion (CG-6010B) – to be given to employee; to be given to unit CO and XO/XPO if work-related injury, exposure contraindications, or workplace restrictions are recommended

Medical examinations will be provided upon enrollment and annually thereafter throughout the duration of exposure, and following an acute exposure.

Medical and Work History will Include:

1. Past and current exposure to pesticides or other chemicals (occupational and non-occupational).
2. Smoking and alcohol use history.
3. Any symptoms of skin irritation, gastrointestinal symptoms, muscle achiness or weakness, fatigue, or numbness, tingling, or weakness in the extremities.
4. Allergic skin conditions or dermatitis.

A complete physical examination will be performed with emphasis on the eyes, skin, and respiratory system.

Exposure Effects: Herbicides may cause skin rashes, contact dermatitis and asthma-like attacks. Symptoms associated with chlorophenoxy herbicides include headache, dizziness, nausea, vomiting, abdominal pains, diarrhea, respiratory complications, aching and tender muscles, myotonia, weakness, and fatigue; renal dysfunction and peripheral neuropathy are possible. Bipyridyl herbicides (such as paraquat and diquat) can cause intoxication with signs of lethargy, hypoxia, dyspnea, tachycardia, diarrhea, ataxia, and convulsions. Paraquat is especially toxic to lung tissue. Diquat may cause cataract formation. Absorption is via direct skin contact, inhalation, and ingestion.

Coast Guard	Examination Checklist for Exposure to: PESTICIDES (Organophosphates and Carbamates)
	DO or COMPLETE THESE ITEMS
Baseline, Annual, and Acute Exposure Examination Form	Occupational Medical History and Examination (CG-6010E)
Additional Acute Exposure Form	Acute Exposure Information (CG-6000-1)
Examination Components for Red Blood Cell Cholinesterase and Plasma Cholinesterase - Only Examinations	Red blood cell cholinesterase and plasma cholinesterase
	Summary Report (CG-6010C) – to be given to employee
	Written Opinion (CG-6010B) – to always be given to employee; to be given to unit CO and XO/XPO if work-related injury, exposure contraindications, or workplace restrictions are recommended.
Examination Components for all Types of Examinations Including Acute Exposure	Physical examination
	Summary Report (CG-6010C) – to be given to employee
	Written Opinion (CG-6010B) – to be given to employee; to be given to unit CO and XO/XPO if work-related injury, exposure contraindications, or workplace restrictions are recommended

Medical examinations will be provided upon enrollment, at least annually thereafter throughout the duration of exposure and following an acute exposure.

Medical and Work History will Include:

1. Past and current exposure to pesticides or other chemicals (occupational and non-occupational)
2. Smoking and alcohol use history
3. Any symptoms of eye, nose, or throat irritation; cough; nausea, vomiting, diarrhea, or abdominal pain; irritability, anxiety, difficulty concentrating, impaired short-term memory, fatigue, or seizures; and numbness, tingling, or weakness in the extremities
4. Allergic skin conditions or dermatitis

A complete physical examination will be performed with emphasis on the skin, respiratory, and nervous systems and including a mental status examination.

Red Blood Cell Cholinesterase and Plasma Cholinesterase Testing will be Performed at These Times:

1. *Baseline test:* Two sets of red blood cell cholinesterase and plasma cholinesterase tests will be taken at least 72 hours apart but no more than 14 days apart and will be analyzed by the same clinical laboratory. If the two tests for either enzyme differ by more than 15%, a third baseline test will be performed. The average of the two closest values will be considered the individual's baseline. All baseline tests will be taken when the worker has had no exposure to organophosphate and carbamate pesticides for at least 30 days.

2. Application season tests: Red blood cell cholinesterase and plasma cholinesterase will be tested 45-60 days after the beginning of the application season and then quarterly thereafter if spraying continues. If an employee's red blood cell cholinesterase or plasma cholinesterase level is less than 80% of their baseline values, then frequency of testing will be increased to every 3 months during the application season, and the cognizant SEHO will be advised to investigate the work practices of the employee, including employee sanitation, pesticide-handling procedures, equipment usage and equipment condition.

3. *Acute exposure test*

Continued on page 2

Page 2 of Examination Checklist for Exposure to: PESTICIDES (Organophosphates and Carbamates)

Exposure Effects and Information on Cholinesterase:

This surveillance protocol is concerned with only two classes of insecticides: organophosphates and carbamates. Organophosphates and carbamates inhibit the acetylcholinesterase enzyme and cause depression of red blood cell cholinesterase and plasma cholinesterase levels. Absorption is via direct skin contact, inhalation, and ingestion.

Symptoms of acute organophosphate poisoning develop within minutes to hours after exposure. They include headache, nausea, dizziness, salivation, lacrimation, and rhinorrhea. More severe symptoms include muscle twitching, weakness, tremor, incoordination, vomiting, abdominal cramps, diarrhea, bronchospasm, pulmonary edema, respiratory depression, seizures, bradycardia and cardiac arrest. Miosis and blurred and/or dark vision, anxiety, restlessness, depression, memory loss and confusion may also occur. The primary cause of death is respiratory failure.

Organophosphate-induced delayed neuropathy may occur one to four weeks after severe exposure (usually ingestion) and includes symptoms of muscle cramping, numbness, paresthesia, and progressive weakness in the lower limbs.

Red blood cell cholinesterase (true cholinesterase) is biochemically the same enzyme as the acetylcholinesterase located at the neuro-effector cell synapses. It is often depressed more slowly than plasma cholinesterase following exposure to organophosphate and carbamate pesticides. Regeneration of red blood cell cholinesterase is slow and occurs as new red blood cells are regenerated at a rate of 1 percent per day.

Plasma cholinesterase (pseudo-cholinesterase) is more labile than red blood cell cholinesterase and thus less reliably reflects actual enzyme depression at neuro-effector sites. It is generally more rapidly inactivated compared to red blood cell cholinesterase following exposure to organophosphate and carbamate pesticides. Since it is produced in the liver, it can be regenerated relatively quickly.

Some pesticides preferentially lower the activity of one of the cholinesterase enzymes. For example, chlorpyrifos and mevinphos preferentially lower plasma cholinesterase activity while phosmet and dimethoate preferentially lower red blood cell cholinesterase activity. Cholinesterase levels may return to pre-exposure levels after a period of several hours to several days following carbamate exposure and after a period of a few days to several weeks following organophosphate exposure.

Three percent of the population has genetically determined lower plasma cholinesterase levels. Plasma cholinesterase can also be lowered by liver disease, malnutrition, alcoholism, nephritic syndrome, early pregnancy, cocaine use, estrogen and estrogen-containing contraceptives (birth control pills). Red blood cell cholinesterase levels can be affected by hemolytic anemia, pernicious anemia, and reticulocytosis.

Medical Removal is Required for the Following:

1. Red blood cell cholinesterase falls below 70% of baseline levels; and/or
2. Plasma cholinesterase falls below 60% of baseline levels

In both cases, both the red blood cell cholinesterase and the plasma cholinesterase must be 80% or more of the baseline levels before the employee may resume pesticide application work activities.

If a worker experiences associated symptoms during pesticide handling, they will immediately be removed from further exposure pending a medical evaluation. The exposed worker will be transported to the nearest hospital or poison center for potential treatment with atropine and/or pralidoxime chloride.

Coast Guard	**Examination Checklist for Exposure to: RESPIRATOR USE** **DO or COMPLETE THESE ITEMS**
Baseline and Periodic Examination Forms*	Respirator Clearance Request (CG-6010G) Respirator Questionnaire(CG-6010F) Occupational Medical History and Examination Form (CG-6010E) *(If requested by Medical Officer/Healthcare Provider)*
Examination Components for all Types of Examinations Including Acute Exposure	Physical examination *(if requested by Medical Officer/Healthcare Provider)*
	Spirometry test (FVC and FEV1) *(If requested by Medical Officer/Healthcare Provider due to reported respiratory symptoms or illnesses)*
	Summary Report (CG-6010C) – to be given to employee if an examination or medical tests are performed
	Written Opinion (CG-6010B) – to be given to employee; to be given to unit CO and XO/XPO if work-related injury, exposure contraindications, or workplace restrictions are recommended.

Medical evaluations will be provided upon enrollment and periodically thereafter for the duration that respirator use is required.

*Coast Guard members will be medically cleared for respirator use on an annual basis with their medical clearance being based by default on whether their annual Periodic Health Assessment (PHA) indicates that they are fit for full duty. If they are fit for full duty (FFD), no examination forms or questionnaires are needed and it is assumed that they are cleared for use of all types of respirators. In cases where the PHA indicates that the Coast Guard member is not fit for full duty, the Medical Officer/Healthcare Provider may determine that based on the medical condition of concern that there will be no impact on the safe use of a respirator, and may medically clear the individual for limited to full use of one or more respirator types.

For civilian workers, the expiration date of a medical clearance for respirator use will be determined by the Medical Officer/Healthcare Provider at the time of the medical evaluation and may range from several months to 5 years. For SCBA use, the respirator medical clearance will be restricted to one year.

Medical evaluations are additionally required for the following:

1. The member reports signs and symptoms related to the ability to use a respirator.
2. The healthcare provider, supervisor, or Respirator Program Coordinator informs the command of the need for a medical evaluation.
3. Observations made during fit testing, respirator use, or program evaluation indicates the need for a medical evaluation.
4. When changes in workplace conditions such as physical work effort, protective clothing or climate conditions result in a substantial increase in physiological burden.

Continued on page 2

Page 2 of Examination Checklist for Exposure to: RESPIRATOR USE

For civilian workers, each initial and periodic evaluation will include, as a minimum the completion of the Respirator Medical Evaluation Questionnaire, Form CG-6010F, and any other medical tests or procedures deemed appropriate by the examining Medical Officer/Healthcare Provider.

A licensed healthcare professional (nurse, nurse practitioner, physician assistant, or physician) will review the completed questionnaire to determine if a follow-up medical examination is required. For a positive response in Part A, Section 2 to question 9, the Medical Officer/Healthcare Provider will answer any questions the employee has. The licensed healthcare professional who reviews the questionnaire may also record additional medical information obtained from the employee regarding their positive responses on the Respirator Questionnaire, and date and sign. In many cases, this information when reviewed by the Medical Officer/Healthcare Provider will be sufficient to permit medical clearance for respirator use.

A medical appointment will be scheduled with a Medical Officer/Healthcare Provider for any positive responses to Part A, Section 2, questions 1 through 8 (for non-SCBA users) and for any positive responses to Part A, Section, questions 1 through 8 or 10 through 15 (for SCBA users). At the time of the medical appointment the Medical Officer/Healthcare Provider may only need to clarify positive responses (this may alternatively be done via a telephone interview), perform a limited physical examination, and/or request a spirometry test.

Spirometry test result cannot be used to absolutely determine a work's ability to use a respirator. However, when a spirometry test shows an FVC or FEV1 less than 60% of predicted values the worker should be restricted from respirator use pending a medical opinion by a pulmonologist.

Coast Guard Military Members: If the Coast Guard member is not FFD on their PHA, the Medical Officer/Healthcare Provider is to send a Written Opinion, Form CG 6010B, to the unit CO and XO/XPO with restrictions on respirator use until an evaluation is performed and a formal medical determination regarding respirator use is made.

Exposure Effects: Respirators are often extremely uncomfortable to wear for prolonged periods of time. Workers with asthma, claustrophobia, angina, and other conditions may not be able to safely wear or tolerate respirators. Powered air-purifying respirators require less effort to use compared to non-powered air-purifying respirator. Due to the weight of the device and oxygen tanks, self-contained breathing apparatus (SCBA) respirators reduce maximal work effort by approximately 20 percent.

Medical Removal Requirements: Total exclusion from workplace exposures should be considered for those with extrinsic sensitization to workplace exposures.

The OSHA Respiratory Protection Standard (29 CFR 1910.134 is available at:
https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=12716

Coast Guard	**Examination Checklist for Exposure to: RESPIRATORY SENSITIZERS (Including Isocyanates)**
	DO or COMPLETE THESE ITEMS
Baseline, Annual, Acute Exposure and End of Exposure Examination Forms	Occupational Medical History and Examination (CG-6010E) Respiratory Sensitizer Questionnaire (CG-6010H)
Additional Acute Exposure Examination Form and Examination Components	Acute Exposure Information (CG-6000-1)
Examination Components for all Types of Examinations Including Acute Exposure	Physical examination with emphasis on the respiratory system
	Spirometry test (FVC and FEV1)
	Summary Report (CG-6010C) – to be given to employee
	Written Opinion (CG-6010B) – to be given to employee; to be given to unit CO and XO/XPO if work-related injury, exposure contraindications, or workplace restrictions are recommended

Medical examinations will be provided upon enrollment, at least annually thereafter throughout the duration of exposure, following an acute exposure, and at end of exposure.

Respiratory sensitizers include chemicals (isocyanates, formaldehyde, trimellitic anhydride), metals (platinum, chromium, nickel, cobalt), wood and dust, molds, and animal danders. Direct skin exposure to isocyanates may result in sensitization. Once an individual has developed asthma, small amounts of diisocyanate (as low as 1 ppb) for short periods of time may cause a response.

Medical and Work History will Include:

1. Past and current exposure to respiratory sensitizers (occupational and non-occupational)
2. Smoking history
3. Any symptoms of eye, nose, or throat irritation
4. Chronic airway problems or hyperactive airway disease
5. Allergic skin conditions or dermatitis

Exposure Effects. Respiratory sensitizers can cause both occupational asthma and/or hypersensitivity pneumonitis (extrinsic allergic alveolitis).

Medical Removal Requirements: Occupational asthma symptoms must be recognized early and affected workers must be removed from exposure to allergens, since prolonged exposure can lead to irreversible disease. However, removal from exposure does not always lead to complete recovery.

Coast Guard	Examination Checklist for Exposure to: SOLVENTS (Mixed, Other than Benzene)
	DO or COMPLETE THESE ITEMS
Baseline, Annual, and Acute Exposure Examination Form	Occupational Medical History and Examination Form (CG-6010E)
Additional Acute Exposure Examination Form and Examination Components	Acute Exposure Information (CG-6000-1)
	Urine sample to test for metabolite(s)* if able to obtain within several hours of exposure
Examination Components for all Types of Examinations Including Acute Exposure	Physical examination
	BUN, creatinine, and liver function tests (AST, ALT, alkaline phosphatase, and total bilirubin)
	Biological monitoring* for toluene, xylene, and methyl ethyl ketone *(may be performed periodically as recommended by Safety and Environmental Health Officer/Medical Officer/Healthcare Provider)*
	Summary Report (CG-6010C) – to be given to employee
	Written Opinion (CG-6010B) – to be given to employee; to be given to unit CO and XO/XPO if work-related injury, exposure contraindications, or workplace restrictions are recommended.

Medical examinations will be provided upon enrollment, at least annually thereafter throughout the duration of exposure, and following an acute exposure.

Medical and Work History will Include:

1. Past and current exposure to solvents (occupational and non- occupational)
2. Alcohol use history
3. Any symptoms of dry skin, skin irritation, or dermatitis
4. Any CNS symptoms, including headache, nausea and vomiting, dizziness, light-headedness, vertigo, disequilibrium, fatigue, weakness, nervousness, irritability, depression, difficulty concentrating, mood changes, or confusion
5. A review of symptoms with attention to the hepatic, peripheral nervous system, renal, reproductive (miscarriage), and respiratory systems

A complete physical examination will be performed with emphasis on the skin and nervous system and including a mental status examination.

***Biological Monitoring:** Specimens must be obtained in a timely manner during the exposure period. For non-acute exposures, a timely manner generally implies that the specimen be obtained at the end of a work shift or the end of a work week. For acute exposures, a timely manner implies within the first half-life of the chemical, which generally is a matter of a few hours after the overexposure.

1. For toluene, measure urinary hippuric acid, at the end of a full work shift. The American Conference of Governmental Industrial Hygienists (ACGIH) Biological Exposure Index (BEI) of 1.6 grams hippuric acid/gram urine creatinine should not be exceeded.
2. For xylene, measure urinary methyl-hippuric acid, at the end of a full work shift. The ACGIH BEI of 1.5 grams methyl-hippuric acid/gram urine creatinine should not be exceeded.
3. For methyl ethyl ketone, measure urinary methyl ethyl ketone, at the end of a full work shift. The ACGIH BEI of 2 mg methyl ethyl ketone/L should not be exceeded.

Continued on page 2

Page 2 of Examination Checklist for Exposure to: SOLVENTS (Mixed, Other than Benzene)

Exposure Effects: There are over 30,000 industrial solvents. Health effects generally include skin disorders (acute irritant dermatitis, chronic eczema), acute CNS effects (headache, nausea and vomiting, dizziness, light-headedness, vertigo, disequilibrium, fatigue, weakness, nervousness, irritability, depression, confusion, coma), chronic CNS effects (chronic solvent intoxication, neurobehavioral abnormalities, cognitive dysfunction), and arrhythmias. Some other less frequent effects of solvents involve the hepatic, peripheral nervous system, renal, reproductive (miscarriage), and respiratory systems. Most solvents are not carcinogenic to humans with benzene and trichloroethylene being notable exceptions. Trichloroethylene has been associated with kidney cancer. In the Coast Guard, exposure to solvents is primarily associated with industrial and maintenance operations (e.g., painting).

Coast Guard	Examination Checklist for Exposure to: TUBERCULOSIS
	DO or COMPLETE THESE ITEMS
Baseline Examination Form	Medical documentation regarding baseline TB test results.
Annual Symptom Screen	Medical documentation of results of annual symptom screen *(for healthcare and childcare workers, and CG members with a history of a positive TB test in the past)*
Post-Exposure Examination Form and Examination Components	Acute Exposure Information (CG-6000-1) or SF-600
	TB test as soon as possible after exposure and again 10-12 weeks after exposure

The TB test may consist of a TB skin test or a TB blood test (Interferon-Gamma Release Assay)

No group of Coast Guard personnel is known to be at high risk for TB. Therefore routine TB medical surveillance tests are not warranted.

Annual Symptom Screen:
Coast Guard military members are tested for TB on entering the Coast Guard. If they have Latent TB at that time or develop it later while on active duty status they will receive an annual TB symptom screen at the time of their Periodic Health Assessment.

Civilian healthcare workers and childcare workers will have a baseline two-step TB skin test or TB blood test (Interferon-Gamma Release Assay). If the test is positive and they are shown to have Latent TB they will receive an annual TB symptom screen. The TB symptom screen includes questions on persistent and/or productive cough, chest pain, fever, chills, night sweats, appetite loss and unintended weight loss. Annual evaluation by chest x-ray is not warranted.

Post-exposure Protocol: Anytime that a worker as part of their job comes in close contact with a person known to have active TB, perform the following steps.

1. Record details of the exposure on Form CG-6000-1 or an SF-600. Details will include the TB status of the contact person and the worker, whether an N-95 or other respirator was used, duration of exposure, date of exposure, and physical setting (e.g., below deck migrant activity area or within an aircraft).
2. Complete a TB test as soon as possible following exposure and again 10-12 weeks after the exposure, unless the worker already has a history of a prior positive TB test result. (The incubation period for TB is 10-12 weeks).
3. Require an annual TB symptom screen and provide or advise on chemoprophylaxis, if there is a new positive TB test result.

Exposure Effects: Tuberculous droplet nuclei are coughed, spoken, or sneezed into the air by an individual with active pulmonary tuberculosis. Exposure to these airborne droplet nuclei may cause infection with the bacterium that causes tuberculosis. Latent tuberculosis is defined as an infection with the tuberculosis bacterium without having active (infectious) disease.

Medical Removal Requirements: Workers with a known history of a positive TB skin test and who have symptoms suggestive of active TB or workers with confirmed active TB will be removed from the workplace until they are proven to be non-infectious.

Coast Guard	**Checklist for CHILDCARE WORKER Examination**
Medical Examination Forms	Certificate of Medical Examination (OF-178) for job position Occupational Medical History and Examination (CG-6010E) Civilian Medical Clearance (CG-6010D)
Additional Medical History Questions	History of chicken pox History of jaundice History of chronic abdominal pain, vomiting or other gastrointestinal symptoms History of treatment for drug or alcohol use History of mental or emotional illness, depression or excessive anxiety
Medical Examination Components	Physical examination Best corrected far vision in each eye Color vision test
Required Immunizations	Seasonal influenza vaccination within last year[1] Measles, Mumps, and Rubella (complete series) or serological documentation of immunity[2] Tetanus, diphtheria, acellular pertussis[3] Varicella vaccine or serological documentation of immunity[4] Two-step Tuberculin Skin Test (TST) or TB blood test[5]

[1] oversight for continued annual influenza vaccination of childcare workers will be assumed by local Coast Guard Child Development Center administrator; [2]one dose of measles, mumps, and rubella; [3]adults with an unknown or incomplete history of completing a 3-dose primary vaccination series must begin or complete a primary vaccination series including a Tdap dose, workers must have one Tdap dose regardless of time since previous DT dose; [4] two doses; [5]Two-step tuberculin skin test (TST) - The first TST is performed (or may use a prior test result from 1 week to 12 months prior to test). If the test result is positive, the second test is not needed, and the individual is considered infected. If the first TST is negative, then a second TST must be repeated in 1-3 weeks. If the second test result is positive, the person is considered infected and if both the first and second tests are negative the person is considered uninfected. Alternately, the individual may be tested with a tuberculosis blood test (Interferon-Gamma Release Assay such as QuantiFERON or T-SPOT).

Medical and Functional Requirements

- Emotional and mental stability
- Ability to safely lift and carry up to 45 pounds.
- Ability to reach above shoulders
- Ability to use fingers
- Presence of both hands and both legs
- Ability of push 1 hour per day
- Ability to walk 8 hours per day
- Ability to stand 8 hours per day
- Ability to crawl 1 hour per day
- Ability to kneel 1 hour per day
- Ability to bend 8 hours per day
- Basic color differentiation
- Best corrected far vision of 20/50 or better in one eye and 20/100 or better in the other eye.

Examination is performed at baseline/preplacement and then every two years.

Coast Guard	**Checklist for FOOD SERVICE WORKER Examination**
Medical Examination Forms	Certificate of Medical Examination (OF-178) for job position Occupational Medical History and Examination (CG-6010E) Civilian Medical Clearance (CG-6010D)
Additional Medical History Questions	History of chicken pox History of jaundice History of infectious disease History of chronic abdominal pain, vomiting or other gastrointestinal symptoms
Medical Examination Components	Physical examination Vision test to support OF-178 requirements Hearing test to support OF-178 requirements

Medical Requirements (as well as other items listed on page 4 of the OF-178):

- Absence of communicable disease including open sores on exposed skin
- Ability to safely lift and carry up to 45 pounds
- Prolonged standing, walking and repeated bending
- Adequate hearing for safe performance of duties
- Basic color differentiation
- Far vision adequate to safely perform job functions

Examination is performed at baseline/preplacement.

Coast Guard	Checklist for HEALTHCARE WORKER Examination
Medical Examination Forms	Certificate of Medical Examination (OF-178) for job position Occupational Medical History and Examination (CG-6010E) Civilian Medical Clearance (CG-6010D)
Additional Medical History Questions	Latex allergy Unexplained hives Itchy eyes, runny nose or respiratory symptoms when using latex gloves History of chicken pox History of jaundice
Medical Examination Components	Physical examination Best corrected far vision in each eye Best corrected near vision in each eye Color vision test
Required Immunizations	Hepatitis B[1] Influenza Measles, mumps, and rubella[2] Tetanus, diphtheria, acellular pertussis[3] Tuberculin skin test or TB blood test[4] Varicella[5]

[1] three doses; [2] two lifetime doses; [3]adults with an unknown or incomplete history of completing a 3-dose primary vaccination series must begin or complete a primary vaccination series including a Tdap dose, workers must have one Tdap dose regardless of time since previous DT dose; [4] Two-step tuberculin skin test (TST) - The first TST is performed (or may use a prior test result from 1 week to 12 months prior to test). If the test result is positive, the second test is not needed, and the individual is considered infected. If the first TST is negative, then a second TST must be repeated in 1-3 weeks. If the second test result is positive, the person is considered infected and if both the first and second tests are negative the person is considered uninfected. Alternately, the individual may be tested with a tuberculosis blood test (Interferon-Gamma Release Assay); [5] two doses.

Examination is performed at baseline/preplacement.

Coast Guard	Checklist for WASTEWATER/SEWAGE WORKER Examination
Medical Examination Forms	Certificate of Medical Examination (OF-178) for job position Occupational Medical History and Examination (CG-6010E) Civilian Medical Clearance (CG-6010D)
Medical Examination Components	Physical examination Vision test to support OF-178 requirements Hearing test to support OF-178 requirements
Additional Medical History Questions	History of infectious disease
Required Immunizations	Tetanus and diphtheria*

* Adults with an unknown or incomplete history of completing a 3-dose primary vaccination series must begin or complete a primary vaccination series including a Tdap dose, others need vaccination for tetanus and diphtheria within the last 10 years.

Examination is performed at baseline/preplacement.

Coast Guard	Checklist for CRANE OPERATOR Examination
Medical Examination Forms	Certificate of Medical Examination (OF-178) for job position Occupational Medical History and Examination (CG-6010E) Civilian Medical Clearance (CG-6010D)
Medical Examination Components	Physical examination. Best corrected distant visual acuity in each eye and binocularly. Color vision – 14-plate Ishihara Peripheral vision in each eye separately Depth perception recorded in seconds of arc if required on OF-178 Audiometry test to include 500, 1000, 2000, 3000, 4000, 6000, and 8000 Hz in each ear Urinalysis without microscopic examination Blood pressure
Medical Requirements	• No impairment of a hand or finger which interferes with prehension or power grasping; and no impairment of an arm, foot, or leg which interferes with the ability to perform normal tasks associated with operating a crane. • No established medical history or clinical diagnosis of diabetes mellitus currently requiring insulin for control. • No current clinical diagnosis of myocardial infarction, angina pectoris, coronary insufficiency, thrombosis, or any other cardiovascular disease of a variety known to be accompanied by syncope, dyspnea, collapse, or congestive cardiac failure. • No established medical history or clinical diagnosis of a respiratory dysfunction likely to interfere with the ability to safely operate a crane. • No current clinical diagnosis of high blood pressure likely to interfere with the ability to safely operate a crane. • No established medical history or clinical diagnosis of rheumatic, arthritic, orthopedic, muscular, neuromuscular, or vascular disease likely to interfere with the ability to safely operate a crane. • No established medical history or clinical diagnosis of epilepsy or any other condition which is likely to cause loss of consciousness or any loss of ability to safely operate a crane. • No mental, nervous, organic, or functional disease or psychiatric disorder likely to interfere with the ability to safely operate a crane. • Distant visual acuity with or without corrective lenses of 20/40 or better in each eye and binocularly. • Field of vision of at least 70° in the horizontal Meridian in each eye. • Depth perception if required by OF-178 • Ability to recognize the colors of signals and devices showing standard red, green, and amber. • Average hearing at 500 Hz, 1000 Hz, 2000 Hz, and 3000 Hz of 40 decibels or less in better ear with or without a hearing aid. • Does not use any drug or substance identified in Drug Enforcement Administration, Schedules of Controlled Substances, 21 CFR 1308.11, Schedule I, an amphetamine, a narcotic, or other habit-forming drug. **Continued on Page 2**

Coast Guard	**Page 2 of Checklist for CRANE OPERATOR Examination**
	• Does not use any non-Schedule I drug or substance that is identified in the other Schedules in 21 CFR 1308 except when the use is prescribed by a licensed medical practitioner, as defined in 49 CFR 382.107, who is familiar with the crane operator's medical history and has advised the crane operator that the substance will not adversely affect the worker's ability to safely operate a crane • No current clinical diagnosis of alcoholism
Examining Medical Officer/Healthcare Provider completes the examination. If examination is performed by a non-Coast Guard Healthcare Provider, then a Coast Guard Medical Officer completes final review. Examination is performed at baseline/preplacement and then every 2 years.	

Coast Guard	**Checklist for FORKLIFT OPERATOR Examination**
Medical Examination Forms	Certificate of Medical Examination (OF-178) for job position Occupational Medical History and Examination (CG-6010E) Civilian Medical Clearance (CG-6010D)
Medical Examination Components	Physical examination Best corrected distant visual acuity in each eye and binocularly Peripheral vision in each eye separately including nasal and temporal visual fields, recorded in degrees. Depth perception recorded in seconds of arc if required on OF-178 Audiometry test to include 500, 1000, 2000, 3000, 4000, 6000, and 8000 Hz in each ear. Blood pressure.
Medical Requirements	• No evidence of dizziness, vertigo, or a medical condition which may lead to an unexpected lapse in level of consciousness or incapacitation. • Distant visual acuity with or without corrective lenses of 20/30 or better in each eye. If vision is 20/40 or poorer a Coast Guard Medical Officer at the base where the employee is located must determine whether the individual's vision is adequate for job operations. If vision is present in only in one eye, then worker must be restricted to operating forklift equipment in open areas, but not in warehouses. • Field of vision of at least 75° in the horizontal Meridian in each eye. • Depth perception if required by OF-178. • Hearing sufficient to hear conversational voice from a distance of 20 feet.

Examining Medical Officer/Healthcare Provider completes the examination.

If examination is performed by a non-Coast Guard Healthcare Provider, then a Coast Guard Medical Officer completes final review.

Examination is performed at baseline/preplacement and then every 2 years.

Coast Guard	Checklist for CGIS Examination
Medical Examination Forms	Certificate of Medical Examination (OF-178) for job position Occupational Medical History and Examination (CG-6010E) Civilian Medical Clearance (CG-6010D)
Medical Examination Components	Physical examination Distant visual acuity in each eye and binocularly, both uncorrected and corrected Best corrected near vision in each eye Color vision – 14-plate Ishihara or Farnsworth D-15 Peripheral vision – Horizontal field of vision in each eye in number of degrees Depth perception in seconds of arc Audiometry test to include 500, 1000, 2000, 3000, 4000, 6000, and 8000 Hz in each ear Laboratory tests: CBC with differential, RBC indices and morphology and platelet count; sodium, potassium, chloride, HCO3 or CO2, BUN, creatinine, ALT, AST, direct bilirubin, indirect bilirubin, alkaline phosphatase; urinalysis without microscopic examination; fasting total cholesterol, HDL, LDL, triglycerides and glucose; and hemoglobin A1c if there is a history of diabetes Resting electrocardiogram Spirometry test (FVC and FEV1) at baseline Blood pressure, height and weight

Medical Requirements: The duties of these positions require moderate to arduous physical exertion and/or duties of a hazardous nature. Workers must meet vision and hearing medical standards of the job position and must have the capacity to perform the essential functions of the position without risk to themselves or others. The medical requirements are provided in the Occupational Medicine Manual in Chapter 3-E-1.

Examining Medical Officer/Healthcare Provider completes the examination and documents immunizations on Civilian Medical Clearance (CG-6010D).

Completed medical examination forms and medical test results as well as other medical information provided by the worker at the time of the medical examinations will be securely forwarded to the Coast Guard Headquarters Occupational Medicine Physician (or his/her designee) for review and a job clearance determination.

Examination is performed at baseline/preemployment and then every 2 years.

Coast Guard	**Checklist for FIREFIGHTER Examination**
Pre-employment and Annual	Occupational Medical History and Examination (CG-6010E) Civilian Medical Clearance (CG-6010D)
Medical Examination Components	Physical examination. Distant visual acuity in each eye and binocularly, both uncorrected and corrected Color vision test (Ishihara 14-plate or Farnsworth D-15) Peripheral vision test Audiometry test to include 500, 1000, 2000, 3000, 4000, 6000, and 8000 Hz in each ear. Laboratory tests: CBC with differential, RBC indices and morphology and platelet count; sodium, potassium, chloride, HCO3 or CO2; BUN, creatinine, ALT, AST, direct bilirubin, indirect bilirubin, alkaline phosphatase; urinalysis with microscopic examination; fasting total cholesterol, HDL-cholesterol, LDL-cholesterol, triglycerides and glucose; and hemoglobin A1c if there is a history of diabetes. Spirometry test (including FVC and FEV1) Resting electrocardiogram Chest x-ray at baseline and thereafter every 5 years Prostate Specific Antigen (PSA) for male firefighters beginning at age 50. Fecal occult blood test beginning at age 40. Blood pressure, height, weight, and waist circumference to determine whether the worker is at increased risk for cardiac disease.
Required Immunizations	Hepatitis B[1] Tetanus and diphtheria[2]

[1] three doses; [2] tetanus and diphtheria vaccination within the last 10 years.

The medical requirements are provided in the Occupational Medicine Manual in Chapter 3-E-2.

Examining Medical Officer/Healthcare Provider completes the examination and documents immunizations on Civilian Medical Clearance (CG-6010D).

Completed medical examination forms and medical test results as well as other medical information provided by the worker at the time of the medical examinations will be securely forwarded to the Coast Guard Headquarters Occupational Medicine Physician (or his/her designee) for review and a job clearance determination.

Examination is performed at baseline/preplacement and then annually.

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Page 2 of Checklist for FIREFIGHTER Examination	
Essential Job Functions	1. Perform fire-fighting (e.g. hose line operations, extensive crawling, lifting and carrying heavy objects, ventilating roofs or walls using power or hand tools, forcible entry), rescue operations, and other emergency response actions under stressful conditions while wearing personal protective ensembles and SCBA, including working in extremely hot or cold environments for prolonged time periods. 2. Wear SCBA. 3. Exposure to toxic fumes, irritants, particulates, biological (infectious) and nonbiological hazards and/or heated gases, despite the use of PPE and SCBA. 4. Climb 6 or more flights of stairs while wearing fire protective ensemble weighing at least 50 pounds and carrying tools weighing an additional 20-40 pounds. 5. Wear encapsulating or insulated fire protective ensemble with associated water loss and potential elevation of core body temperature to over 101.2 degrees F. 6. Search, find and rescue-drag or carry victims over 200 pounds in weight to safety despite hazardous and low visibility conditions. 7. Advance water-filled hoseline up to 2.5 inches in diameter from fire apparatus to occupancy (approximately 150 feet), possibly involving ladders and multiple flights of stairs while wearing personal protective ensembles and SCBA. 8. Climb ladders, operating from heights, walking or crawling in the dark along narrow and uneven surfaces, and operating in proximity to electrical power lines while wearing personal protective ensembles and SCBA. 10. Extreme physical exertion for prolonged periods of time without rest periods, meals, access to medication or hydration. 9. Operate fire apparatus or other vehicles in emergency mode with emergency lights and sirens. 10. Critical, time-sensitive, complex problem solving under stressful and hazardous conditions (fatigue, hot/dark, enclosed spaces, flashing lights, sirens). 11. Communicate and comprehend verbal orders while wearing personal protective ensembles/SCBA under high background noise and poor visibility conditions. 12. Function as an integral component of the team.

Volunteer Self Health Risk Assessment - Surge Capacity Force

I certify the following:

- I understand that I may be asked to perform general office/customer assistance work as well as occasionally perform moderately strenuous physical activity such as lifting or moving chairs, office supplies, or other objects typically weighing less than 50 lbs in extreme heat and humidity.
- I understand that I may be asked to work: long hours; in locations remote to medical care; in unfamiliar settings with changing or multiple supervisors; and with changes in usual eating/sleeping routines.
- I have consulted with a health professional and have had a medical evaluation if any of the following apply to me:

Medications	• Antihistamines • Cardiac medications and anti-hypertensive agents • Anticholinergic agents • Antiepileptic medications • Insulin or oral hypoglycemic agents • Antibiotics • Tranquilizers, antidepressants, mood stabilizers, anxiolytics, stimulants, and other psychotropic medications • Medications that can result in photosensitivity (e.g., doxycycline, ciprofloxacin) • Use of multiple medications
Medical Conditions	• Cardiovascular (e.g., dysrhythmia, heart failure, cardiac disease, high blood pressure, chest pain) • Respiratory (e.g., asthma, chronic obstructive pulmonary disease (COPD), wheezing, shortness of breath) • Neurologic (e.g., seizures, dizzy spells, loss of balance) • Musculoskeletal (e.g., arthritis; back, shoulder, or knee pain; surgery) • Dermatologic (e.g., eczema, irritant or allergic contact dermatitis) • Metabolic (e.g., diabetes (high sugar), history of hypoglycemia) • Mental health (e.g., anxiety, depression, mood disorders) • Visual or hearing impairments • Current infections or illness
Potential Risk Factors	• Age > 65 years • Poor physical conditioning • Alcohol use, illicit substance use • Heat intolerance, history of heat stress • Motion sickness • Current pregnancy
Physical Examination	• Heart rate, resting — < 60 or > 100 beats per minute; irregular heart beat • Respiratory rate — <12 or > 20 breaths per minute • Blood pressure — Systolic > 160 mm Hg and/or diastolic > 100 mm Hg • Body mass index (BMI) — $\geq$ 30

My health professional has reviewed my medical information and reviewed the anticipated physical requirements of the deployment and has provided me with medical clearance to deploy.