

## CHAPTER 8 OCCUPATIONAL HEALTH

### 0801. Discussion

a. The primary objective of the Navy Occupational Safety and Health (NAVOSH) Program is to ensure a safe and healthful work environment for all Navy personnel. The occupational safety part of the program focuses on the elimination or control of the type of hazard that can result in instantaneous (acute) traumatic injury or death. The occupational health part deals with insidious health effects, usually produced by long-term (chronic) exposure to toxic chemicals or harmful physical agents (e.g., noise, radiation, etc.) and treatment of work related injuries. Since many hazardous agents can produce both acute and chronic effects, depending on the nature and degree of exposure, this control requires the close and continuing cooperation of all NAVOSH personnel.

b. Two major specialties comprise the occupational health program: industrial hygiene and occupational medicine (OM). Each of these specialties has, as one of its major functional components, a long-term surveillance program. Industrial hygiene involves the identification and evaluation of occupational health hazards and the recommendation of practical controls to lower workplace health risk. OM focuses on the medical surveillance of employees potentially exposed to the hazards identified during the industrial hygiene workplace evaluation, and the diagnosis and treatment of occupational injuries and illnesses. These two specialties, working together, form the basis for an active occupational health care program. Their integration at the local level provides a valuable tool in identifying and treating acute occupational illnesses and preventing chronic occupational illnesses.

c. This chapter applies to occupational health efforts at all naval shore activities including those which support Marine Corps activities. Reference 8-1 covers occupational health for forces afloat. Major functional components not included in this chapter are contained in other chapters of this manual.

d. The first priority for occupational health (OH) support is Department of the Navy (DON) operational commands. The next priority is other DON activities. OH services may be provided to other Department of Defense (DoD) activities and then to other federal activities as resources allow, and if interservice support agreements are established as required by DODI 4000.19 of 9 August 1995 (NOTAL).

### 0802. Industrial Hygiene

Navy industrial hygiene personnel recognize, evaluate and make recommendations to control potential workplace hazards. Evaluation of Navy workplaces requires a sound, logical workplace exposure assessment strategy. The purpose of such a strategy is to accomplish at least three goals:

a. To assess potential health risk faced by Navy personnel, to differentiate between acceptable and unacceptable exposures, and to control unacceptable exposures

b. To establish and document a historical record of exposure levels for Navy personnel and to communicate exposure monitoring results

- c. To ensure and demonstrate compliance with NAVOSH exposure criteria.

### **0803. Occupational Exposure Assessment**

a. The occupational exposure assessment strategy is the plan for recognizing, evaluating, documenting and developing controls for occupational exposures. There are six major steps in setting up a functioning occupational exposure assessment program:

- (1) Basic characterization
- (2) Qualitative risk assessment and setting of priorities
- (3) Exposure monitoring
- (4) Interpretation and decision-making
- (5) Recommendations and reporting
- (6) Reevaluation.

Chief, Bureau of Medicine and Surgery (BUMED) shall provide all Navy shore activities with a current, thorough evaluation of each workplace per reference 8-2. This evaluation will accurately recognize, identify and quantify all potential health hazards. BUMED shall routinely update the evaluation during the subsequent periodic surveys and, if indicated, conduct specific workplace assessments to assure the validity of the previous exposure determinations. The following subparagraphs outline the basic requirements for occupational exposure assessment.

b. Basic Characterization of the Workplace (Walk-through Survey). The first step in the Navy's exposure assessment strategy is to characterize the workplace. The cognizant industrial hygienist (IH) shall conduct a survey of each workplace to obtain, as a minimum, the following information:

(1) Descriptions of operations, tasks and work practices that take place in the workplace (e.g., welding, spray painting). The description shall include a layout sketch incorporating relevant aspects of the factors listed below, along with the number of persons assigned to the operation/task and the specific work area(s) occupied. The IH shall note the frequency and duration of events taking place within the workplace.

(2) A list of hazardous materials (HM) used in the workplace that present significant risk. The list shall include a description of use at each workplace.

#### **NOTE:**

IHs shall have access to a copy of the authorized use list for the workplaces being surveyed from the activity occupational safety and health (OSH) office and/or first line supervisor.

(3) A list of physical hazards (e.g., noise, non-ionizing radiation, etc.) in the workplace that present significant risk including a brief description of their source(s)

(4) A description of existing controls (e.g., industrial ventilation and personal protective equipment)

(5) Groups of workers expected to have the same or similar exposure.

c. Qualitative Risk Assessment and the Setting of Priorities. Considering all the information available, the next step is to assess if there are significant personal exposures to toxic chemicals and/or harmful physical agents. The BUMED IH shall make this assessment, and shall maintain a written record of the assessment. The record shall include the rationale for any negative determination. When the IH identifies a task or operation that has a significant exposure, he or she will prioritize the task or operation for subsequent monitoring and evaluation.

d. Exposure Monitoring. Monitoring the workplace for toxic substances and/or harmful physical agents is the primary means of assessing:

(1) Personnel exposures

(2) The need to control exposures

(3) The effectiveness of measures directed at reducing or eliminating health hazards.

An IH shall accomplish these assessments using data gathered from representative sampling programs in the workplace. Analysis and interpretation of the data from this sampling assists in the timely assessment of hazards, in making recommendations for changes to existing conditions and in determining requirements for the medical surveillance of exposed personnel.

IHs (or IH technicians or exposure monitors, under the technical direction of an IH) shall conduct all exposure monitoring per reference 8-3.

Exposure monitors shall successfully complete the 9-day industrial hygiene techniques and exposure monitoring course and a period of on-the-job training as determined and documented by the supervising BUMED IH.

Qualifications are mandatory unless specified differently elsewhere in this instruction.

e. Interpretation and Decision Making. An IH shall evaluate all qualitative and quantitative data collected to determine:

(1) The degree of personnel exposure and whether exposures are acceptable or unacceptable. The IH shall document the basis for this decision.

(2) Recommendations for placement of personnel in medical surveillance programs

(3) Whether existing controls are adequate, the need for controls, and if needed, what they should be. This will apply to both interim and permanent measures, where indicated.

(4) Whether periodic exposure monitoring is necessary, and if so, the nature of the monitoring (what, where, how often, etc.).

f. Recommendations and Reporting. The cognizant IH shall provide a survey report, as outlined in reference 8-3, to the surveyed activity.

The cognizant BUMED IH shall prepare and implement an exposure monitoring plan to:

- (1) Fulfill regulatory sampling requirements
- (2) Collect sufficient data to allow statistically valid exposure assessments
- (3) Track workplace exposures to determine trends
- (4) Validate professional judgments of unchanged exposure assessments.

The BUMED IH shall design this plan to obtain samples representative of actual exposures and to analyze the data collected to minimize any bias involved in the process. He or she shall base the plan on a sampling strategy, such as the one outlined in reference 8-4. NAVOSH standards shall specify the frequency of monitoring. Where such standards do not exist, the IH shall use professional judgment to determine the frequency of monitoring. When the BUMED IH performs the exposure monitoring, he or she may incorporate the exposure monitoring plan in the industrial hygiene report. If the BUMED IH takes this course, he or she shall include the following information: what must be sampled, how many samples are needed and how often the sampling should be performed. If the BUMED IH does not include the exposure monitoring plan in the industrial hygiene survey report, he or she may use appendix 8-A or a computer-generated facsimile (i.e., containing data fields of appendix 8-A) for developing the exposure monitoring plan, per reference 8-3.

g. Reevaluation. The BUMED IH shall, at a minimum, provide each activity a periodic reevaluation per appendix 8-B.

Regardless of any activity's category, the BUMED IH may specify more frequent evaluations for specific workspaces or processes depending upon the industrial hygiene exposure assessment. For example, an isolated high hazard space within an otherwise administrative Category III activity -will require reevaluation more frequently than every 4 years. Regardless of their activity's category, the IH can evaluate all administrative workplaces and tasks at the category III periodicity. For operations governed by reference 8-5 through 8-7, the cognizant IH shall comply with the exposure assessment required by those references. Any changes in the workplace that could affect exposures shall prompt a reevaluation. The surveyed activities shall establish procedures to ensure that the cognizant IH is notified of any such changes.

#### **0804. Retention and Access Sampling Records (Disposition)**

a. The BUMED IH shall forward individual exposure monitoring information for placement into the individual's medical record. (Section 0808 discusses medical records.)

b. BUMED shall retain survey, evaluation and sampling records (section 0803) for a minimum of 40 years (except where specific applicable standards require retention for a longer time).

c. The supporting medical activity shall provide employees and their representatives access to those records pertinent to their individual exposures, upon reasonable request per reference 8-8.

#### **0805. Occupational Exposure Registry and Data Bank**

The Navy requires standardization of industrial hygiene data. Analysis of this data will allow for the assessment of hazardous operations Navy-wide and reduce personnel exposure to health hazards. To satisfy this requirement, personnel conducting surveys shall use:

a. Sampling survey forms- contained in reference 8-3 or computerized equivalent (i.e., at a minimum containing the same data fields). Sample forms may be obtained by writing to Commanding Officer Navy Environmental Health Center, NEHC, 620 John Paul Jones Circle, Ste. 1100, Portsmouth, VA 23708-2103 or via the internet <http://www-nehc.med.navy.mil /ih/index.htm>.

b. Activities submitting their samples to laboratories other than the Consolidated Industrial Hygiene Laboratories (due to special projects or contracted services) shall submit a copy of analytical results to NEHC.

#### **0806. Consultative Assistance Teams**

To facilitate OH support, consultative assistance teams (CATs) are available to provide timely, high quality, technical and professional assistance to field activities. CATs are available for all aspects of occupational health programs (e.g., industrial hygiene, OM/nursing, audiology).

a. The three types of CATS are:

(1) Type I. Provides assistance for situations that are beyond the professional capability of local resources and which may threaten or have adverse health affects to naval personnel or their working environment.

(2) Type II. Provides professional and administrative personnel to evaluate program management, effectiveness of program implementation and management of resources.

(3) Type III. Augments local staff to provide required services beyond the capabilities of the requesting activity.

b. Requesting a CAT. Any activity requiring CAT assistance shall submit requests to BUMED 24 by letter or message. After receiving a request, BUMED shall contact the requesting activity and determine the scope of work. In emergency situations, a request by telephone is acceptable; however, confirmation by message or letter shall follow.

c. Limitations. CATs shall not conduct pre-Navy Occupational Safety and Health Oversight Inspection reviews. Requesting activities are ultimately responsible for all required sam-

pling and surveys. CATs will not normally conduct complete routine periodic surveys, but will assist in evaluating new processes or environments.

**0807. Occupational Medicine Service Program Elements**

a. Elements of a comprehensive OM program include:

(1) Diagnosis, treatment, and referral (as indicated) for acute and chronic occupational illnesses and injuries, and care of non-occupational, non-urgent conditions to allow a worker to complete his/her work shift

(2) Medical surveillance program management including:

(a) Validation of personnel assignment to medical surveillance programs based on industrial hygiene data

(b) Medical surveillance examinations per reference 8-9

(c) Ongoing assessment of aggregate population data to identify trends

(3) Fitness for duty medical evaluations (e.g., pre-placement, return-to-work, etc.)

(4) Medical certification examinations per reference 8-9

(5) Work area consultation

(6) Epidemiological assessment of injury and illness data to focus prevention efforts

(7) Occupational illness and injury case management to restore workers to optimal function as soon as feasible

(8) Occupational audiology services in support of the hearing conservation program

(9) Occupational optometry services in support of the sight conservation program

(10) Clinical consultative services

(11) Preventive services (e.g., appropriate immunizations to prevent disease due to occupational exposure)

(12) Work area health promotion programs

(13) Training and education of workers and professionals and support staff

(14) Occupational medicine program management (e.g., bloodborne pathogens, hearing conservation, ergonomics, reproductive hazards, etc.).

**0808. Medical Records**

Maintenance, retention and disposition of personnel medical records shall follow existing directives. The medical records custodian shall provide workers (or their representatives) access to occupational medical records upon reasonable request per reference 8-8. The medical records custodian shall make a worker's medical record available to a physician or other person of the individual's choice after execution of proper release documents (i.e., compliance with provisions of the Privacy Act).

**0809. Responsibilities**

a. Chief, Bureau of Medicine and Surgery (BUMED), through its Echelon Three, Four and Five activities, shall provide OH support Navy-wide (see chapter 2) including:

- (1) A comprehensive industrial hygiene program as defined in section 0803 including:
  - (a) Initial and periodic evaluation of the conditions at each Navy shore activity
  - (b) Technical direction of exposure monitoring programs, including training, procedures, sampling and analytical methods, sample analysis and analysis/interpretation
  - (c) The 9-day industrial hygiene techniques and exposure monitoring course
- (2) A comprehensive occupational medical program as defined in Section 0807 above
- (3) The establishment, in coordination with each activity, of appropriate records relating to all OH aspects of the activity's NAVOSH program
- (4) Other consultative occupational health support, as requested by the activity commanding officer to meet the requirements of this instruction
- (5) Custody of all medical records if not handled by the medical department.

b. Activity commanders, commanding officers and officers in charge shall provide a safe and healthful work place for their employees and coordinate with the cognizant BUMED activity for the provision of the OH services described above. When non-medical activities perform services outlined in this chapter, they will perform those services per, and under the technical oversight of, BUMED.

c. Commanders of Naval Shipyards shall supplement BUMED programs by the continued operation of their exposure monitoring programs.

## Chapter 8

### References

- 8-1. OPNAVINST 5100.19D CH-1 of 30 Aug 01, Navy Occupational Safety and Health (NAVOSH) Program Manual for Forces Afloat (NOTAL)
- 8-2. DOD Instruction 6055.5 of 10 Jan 89, Industrial Hygiene and Occupational Health (NOTAL)
- 8-3. NEHC Technical Manual, Industrial Hygiene Field Operations Manual, latest revision
- 8-4. AIHA "A Strategy for Occupational Exposure Assessment", latest revision
- 8-5. Title 29 CFR 1910, Occupational Safety and Health Standards (NOTAL)
- 8-6. Title 29 CFR 1915, Occupational Safety and Health Standards for Shipyards (NOTAL)
- 8-7. Title 29 CFR 1926, Occupational Safety and Health Standards for Construction (NOTAL)
- 8-8. Title 29 CFR 1910.1020, Subpart Z, Toxic and Hazardous Substances (NOTAL)
- 8-9. NEHC Technical Manual, Medical Surveillance Procedure Manual and Medical Matrix, latest revision

**Appendix 8-A**  
**Exposure Monitoring Plan**

OPNAV 5100-25

<b>WORKPLACE INFORMATION</b>			
Organization:			
Shop or Work Center:			
Location:			
Supervisor:		Phone:	
No. of Workers:	Male:	Female:	
Shop Operations:			
Potential Hazard	Intermittent or Continuous	Workers Involved	Controls
<b>EXPOSURE ASSESSMENT</b>			
Comments:			
Signed:		Date:	
Title:			

OPNAV 5100/14 (10/91)

<b>MONITORING PLAN</b>					
Potential Hazard	No. of Measurements	Method of Measurement <sup>1</sup>	Location of Measurement <sup>2</sup>	Frequency (per year)	Man-Hours (Per Year)

<sup>1</sup> Use the following codes:  
 DR - Direct reading instrument  
 IT - Indicator tube  
 AT - Adsorption tube (charcoal, silica gel, etc.)  
 B/I - Bubbler/Impinger  
 F - Filter  
 PD - Personal Dosimeter  
 O - Other

<sup>2</sup> Use the following codes:  
 GA - General area  
 BZ - Breathing zone of personnel  
 SZ - Source zone  
 O - Other (specify)

OPNAV 5100/14 (10/91) BACK

**Appendix 8-B**  
**Periodic Industrial Hygiene Reevaluation Frequency Categories**

ACTIVITY CATEGORY	REQUIRED IH SURVEY FREQUENCY	ACTIVITY EXAMPLES
I High Hazard	Annual	NAVSHIPYD, SRF, NAVAVNDEPOT, SIMA, AIMD, PWC, WEAPONS/ORDNANCE STATION, NAVIMFAC, TEST CENTER OR LAB, MEDICAL/DENTAL ACTIVITIES, ACU, BMU, PHIBCB, NUWC, NSWC
II Moderate Hazard	Every 2 years	NAVAL STATIONS, AIR STATIONS, NCTAMS, FISC, SEAL TEAMS, SHIPS AND SUBMARINES, AVIATION SQUADRONS, SUBTRAFAC, FLTIMAGING, NAVFAC EFD, NCIS, NAVBASE, EXCHANGE, EOD, NAVCOMTELSTA, NAVCOMMU, FLETRACEN, FASO, CNET, FACSFAC, NOSTRA
III Low Hazard	Every 4 years	ALL OTHER ACTIVITIES WITH PRIMARILY OFFICE OR CLASSROOM WORK, SUCH AS ADMINISTRATIVE HEADQUARTERS STAFFS AND ADMINISTRATIVE SUPPORT COMMANDS

**Note:** Where Category III activities have received a documented baseline industrial hygiene survey and it can be verified that the facility and/or work processes have not changed since the last evaluation, the reevaluation does not require a site visit.