



DEPARTMENT OF THE NAVY
NAVAL POSTGRADUATE SCHOOL
1 UNIVERSITY CIR
MONTEREY, CA 93943-5000

IN REPLY REFER TO:
NPSINST 5100.1
00K
30 Dec 14

NPS INSTRUCTION 5100.1

From: President, Naval Postgraduate School

Subj: NPS SAFETY AND OCCUPATIONAL HEALTH MANUAL

Ref: (a) OPNAVINST 5100.23G
(b) OPNAVINST 3500.39C
(c) 29 CFR 1910
(d) NAVPGSCOLINST 5100.27A
(e) NPSINST 3700.1A
(f) NPSINST 3750.1
(g) NAVPGSCOLINST 3900.4A
(h) NPSINST 5090.1A
(i) NAVPGSCOLINST 5100.9A
(j) NAVPGSCOLINST 5100.11B
(k) NPSINST 5200.1S
(l) NAVPGSCOLINST 5100.14A
(m) NAVPGSCOLINST 5350.3
(n) NAVPGSCOLINST 5530.4
(o) NAVPGSCOLINST 6055.11
(p) NAVPGSCOLINST 6470.1G
(q) CNICINST 5100.3A

Encl: (1) Navy Occupational Safety and Health (NAVOSH) Program Manual

1. Purpose. To establish a comprehensive command safety, occupational health, and environmental policy instruction. This instruction identifies and formalizes responsibilities and procedures for the management of all Command Occupational Safety and Health (OSH) Programs. OSHE programs established in references (a) through (q) are referenced and in some cases supplemented by this instruction. Should a conflict exist between this and any higher-level instruction, the higher-level instruction takes precedence. Conflicts between multiple NPS instructions should be brought to the attention of the OSHE Directorate for resolution.

2. Policy. The OSH policy of the Naval Postgraduate School (NPS) is to provide a safe and healthful workplace for employees, students and visitors while accomplishing the mission

of NPS. NPS is fully committed to preventing and minimizing personal injuries or illness, and to preventing and minimizing damage to Navy equipment and facilities. A safe and healthy work environment is achieved through the management of comprehensive Navy Occupational Safety and Health (NAVOSH) programs. The programs primarily feature workplace inspections; compliance with applicable standards; prompt abatement of identified hazards; Occupational Safety, Health, and Environmental (OSHE) training; hazard reporting procedures; mishap investigations; industrial hygiene; medical surveillance; facility construction and design plan review; and personal accountability for safety and health through documented performance standards. Occupational Safety and Health is an inherent responsibility of all NPS management and supervisors. The NPS OSHE Office administers the NAVOSH programs, provides direct consultation to NPS personnel, and serves as the focal point on all NPS OSHE related matters.

3. Scope. This instruction applies to all active duty military (on and off-duty), civil-service, and contract personnel working in support of NPS activities or operations. This instruction applies to all research programs, lab facilities, centers, vehicles, and equipment under the reporting custody of NPS. All buildings, hard wires, grounds, and roads are under the reporting custody of Naval Support Activity Monterey (NSAM). Seek clarification on the appropriate responsible organization for safety issues from the NPS OSHE Office when needed.

4. Discussion. Enclosure (1) and references (a) through (q) provide policy and outline responsibilities for the implementation of various NAVOSH programs. The NAVOSH program encompasses all safety disciplines such as aviation safety, weapons/explosives safety, off-duty safety, traffic safety, and occupational safety and health.

5. Action. All NPS personnel are responsible for complying with this instruction and actively supporting the NPS OSH programs. For purposes of this instruction, references to NPS also apply to any other group or activity affiliated with NPS where NPS is legally or contractually required to provide OSH oversight.

6. Reports and Forms

a. Reports. Any reports required by this instruction will be submitted via the Enterprise Safety Applications Management

System (eSAMS), or the corresponding report form will be located in the applicable chapter appendix.

b. Forms. Forms are located in the corresponding chapters as Appendices, or can be obtained via the eSAMS online database.


D. L. McLAY
Chief of Staff

Distribution:

<http://intranet.nps.edu/Code00/Instructions/IndexNew.html>

NAVAL POSTGRADUATE SCHOOL
OCCUPATIONAL SAFETY AND HEALTH PROGRAM MANUAL

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CHAPTER 1
NPS SAFETY POLICY

0101. Objectives

Naval Postgraduate School (NPS) complies with the safety and health regulations and/or guidelines of OPNAVINST 5100.23 (series), and other applicable documents. The goals and objectives of NPS' Occupational Safety and Health (OSH) Program are to provide a safe and healthful workplace by establishing and maintaining procedures to:

- a. Conduct an aggressive OSH Program to prevent and minimize occupational injuries and illnesses.
- b. Comply with all applicable Federal, DOD, State, and Navy regulations pertaining to health and safety.
- c. Inform all personnel of their obligations and personal responsibilities regarding the OSH Program.
- d. Provide guidance on approved personal protective equipment (PPE), safety equipment, and other devices necessary to protect personnel.
- e. Provide OSH education and training as required by reference 1-1.
- f. Encourage safety awareness through incentive and award programs.
- g. Work with NSAM to inspect all workplaces at least annually and more frequently based on the level of risk.
- h. Conduct an aggressive monitoring program for those personnel who work in high-risk areas.
- i. Systematically pursue rehabilitation/retraining of personnel who sustain debilitating injuries on the job.
- j. Establish and maintain OSH councils and committees at appropriate command levels.
- k. Work with NSAM to conduct mishap investigations, maintain a log, and review lost-time injuries and illnesses to identify causes, determine trends, and take appropriate corrective action.

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1. Provide personnel and their representative's access to their exposure and medical records.

0102. Policy and Standards

a. The order of precedence for OSH standards is NPSINST 5100.23(series) and reference 1-1. Additionally, other recognized sources may be consulted, including, but not limited to, applicable NSAM instructions, the American Conference of Governmental Industrial Hygienists (ACGIH), the American National Standards Institute (ANSI), and the National Fire Protection Association (NFPA).

b. NPS shall not subject personnel to coercion, discrimination, or reprisals for participation in the NAVOSH Program.

c. Personnel may review NAVOSH standards and NPS OSH Program documentation for further clarification during normal business hours at the NPS OSHE Directorate Office.

0103. Other Program Elements

Military unique operations involving explosives, radiological hazards, aviation safety, and/or biological hazards are safety-related programs that the Navy addressees in regulations and operating procedures other than OPNAVINST 5100.23 (series).

Enclosure (1)

Chapter 1
References

1-1. OPNAVINST 5100.23 (series), Navy Occupational Safety and Health (NAVOSH) Program Manual

CHAPTER 2 RESPONSIBILITIES

0201. Discussion A successful NAVOSH Program results when the visibility of the program permeates every level of the organization to the point of actually reducing work-related risks and mishaps. The maintenance of safe and healthful working conditions is a line management responsibility. To achieve success, the NAVOSH Program must be fully supported through the chain of command. All personnel employed by the Naval Postgraduate School (NPS), and tenant activities shall comply with the standards, codes, directives, etc., which are published in support of occupational safety and health. All other personnel utilizing NPS and tenant command facilities shall also be required to comply with these procedures applicable to the specific activities in which engaged.

0202. Dissemination of Program Information Personnel can review copies of the NAVOSH standards, records of safety and health committees and their actions and recommendations and various documentation concerning NPS's OSHE Program in the OSHE Directorate Office and/or on the OSH website at www.safety.navy.mil. Information regarding the NPS OSHE Program shall be posted on or near departmental safety bulletin boards. As a minimum, the following OSH Program data shall be posted:

- a. Blank copies of OPNAV 5100/11: "Navy Employee Report of Unsafe or Unhealthful Working Condition," with reporting and appeals procedures.
- b. Annual mishap reports initiated by the OSH office.
- c. DD Form 2272 "Department of Defense Occupational Safety and Health Protection Program" (copies of this form may be obtained from the OSHE Directorate office).
- d. President's OSH Policy Statement.

0203. Performance, Evaluation, and Discipline The ability of a manager or supervisor to carry out his/her occupational safety and health responsibilities shall be a factor in overall job evaluations. Consideration should be given to departmental safety records when evaluating supervisors at any level. Performance evaluations shall reflect personal accountability, consistent with the duties of the position and with appropriate recognition of superior performance or conversely deficient performance as appropriate. Even though most individuals will understand the need for safety and health regulations and scrupulously abide by them,

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history shows that a small number of people will choose to disregard these rules, and thereby place themselves, fellow employees, and valuable equipment in hazardous circumstances. Violators of NAVOSH regulations shall be subject to disciplinary action in accordance with civilian personnel instructions or the uniform code of military justice.

0204. Command Responsibilities The NPS President (Code 00A) is responsible to ensure all of the following IAW reference 2-1.

a. Implementing and conducting an aggressive and continuing OSH program.

b. Ensuring an OSH office is organized, staffed, and maintained.

c. Issuing an OSH policy statement that reflects the President's commitment to the OSH program and to programs that prevent or minimize occupational mishaps.

d. Ensuring that all responsibilities of the NPS OSHE Director are properly carried out IAW this Instruction and all associated references.

e. Annually reviewing the activity hazard abatement program plan.

f. Establishing an NPS Safety Council and ensuring minutes are issued and maintained.

g. Establish, approve, and maintain an overreaching, all-encompassing command Occupational Safety, Health and Environmental program to ensure the health and well-being of personnel, to prevent mishaps, and to preserve resources.

h. Ensure the Command obtains and maintains all required and updated official permits, manuals, and instructions for Hazardous Materials (HAZMAT), Lasers, Radiation, Reproductive health hazards, and Chemical Hygiene in order to manage risk, and to enhance a culture of safety while executing NPS missions

i. Ensuring OSHE program managers are appointed for each area of responsibility to ensure a proactive, pervasive culture of risk identification and management.

j. Maintain coordination with the NSAM OSH department, Navy Safety Center, federal, and local agencies to pool resources and

lines of communication when/where necessary to enhance and prepare for coordinated OSHE efforts.

k. Comply and implement Navy OSHE directives and federal regulations at NPS.

l. Provide and insure resources and funding are committed to maintain a robust, ever-evolving healthy OSHE program.

0205. Individual/Positional Responsibilities

a. The NPS OSHE Director

The Occupational Safety, Health and Environmental(OSHE) Director functions as an assistant to the President for oversight and management of the OSHE Programs for NPS. The OSHE Director reports to the President, NPS through the NPS Chief of Staff for performance of assigned duties and has direct access to all Deans, Staff Directors, Line Managers, Supervisors, and Principal Investigators (PI's) in all matters pertaining to OSHE. Personnel assigned to the OSHE Directorate office report to the OSHE Director. The OSHE Director, or designated representative, is authorized to stop workplace operations when work practices or procedures create a serious unsafe or unhealthful working condition (imminent danger situation). The OSHE Director shall:

(1) Plan, organize, direct, operate, and evaluate NPS's OSHE programs.

(2) Develop accident prevention and loss control measures and programs.

(3) Prepare specific rules and regulations for approval and promulgation by the President as required.

(4) Organize and conduct safety inspections and surveys to identify violations, hazards, and deficiencies in operations, work places, facilities, and equipment, ensure compliance with applicable instructions and procedures.

(5) Record safety and occupational health violations and deficiencies, coordinate actions for corrections, conduct follow-up inspections, and maintain status report on actions taken.

(6) Develop and maintain a hazard abatement plan, coordinate actions and follow-up to ensure that abatement

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projects are developed and executed to abate safety and occupational health deficiencies, and monitor status of abatement actions.

(7) Maintain complete and accurate records on the mishap, injury, and occupational illness experience of NPS and tenant activities, and fulfill the reporting requirements by submitting all necessary reports to external regulating authorities.

(8) Conduct studies and analyze mishap investigation reports, reports of occupational injuries and illnesses, and property damage reports to identify causal factors and to determine trends; initiate program improvement actions accordingly.

(9) Maintain liaison with managers, supervisors, and PI's on the adequacy of operating procedures, tools, facilities, designs, plans, and specifications from an OSHE standpoint; ensure that OSHE requirements are identified and implemented into all workplace operations, planning, and design efforts.

(10) Assist supervisors PI's, Safety Coordinators and NPS OSHE Directorate personnel in developing and conducting safety training, education, and indoctrination of new employees. Additionally, the NPS OSHE Director will ensure compliance with all recurring and specially targeted OSHE training requirements.

(11) Provide advice and guidance to all School organizational elements, managers, supervisors, PI's and employees covering the technical aspects of safety, and principles of hazard recognition and control, and the application of these principles as they relate to NPS workplaces.

(12) Foster personal safety awareness at all levels of NPS and tenant activities through appropriate promotional methods and channels of communication.

(13) Ensure all employees are aware of their rights and responsibilities related to the NPS OSH program.

(14) Coordinate the preparation of the annual OSHE Directorate budget submission.

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(15) Establish written goals and objectives for the NPS OSH Program; evaluate program performance; then develop measures to recognize superior and deficient OSHE performance.

(16) Serve as technical consultant to the Labor and Employee Relations Specialists in coordinating the NPS OSHE Program with representatives of the labor organization as required by negotiated labor agreements.

(17) Implement and advertise a hazard reporting system that provides employees with a method of reporting unsafe or unhealthful working conditions.

(18) Serve as technical authority in the procurement of approved personal protective equipment, and as coordinator for all facets of the personal protection, noise control, and sight conservation programs.

(19) Provide data, as appropriate, for the evaluation of injury compensation claims submitted to the Civilian Personnel Office.

(20) Cooperate with, and provide advice to, medical and employment personnel on the proper selection and placement of personnel as they relate to Safety and Occupational Health.

(21) Attend and participate in safety and occupation health committee meetings, conferences, seminars, and workshops directly related to OSHE functions.

(22) Provide OSHE Program support to organizations where an inter-service support agreement exists.

(23) Appoint and designate OSHE program managers for each area of responsibility to ensure a proactive, pervasive culture of risk identification and management.

b. School Deans, Department Chairs and Staff Directors are responsible for supporting NPS's OSH Program to the extent of their authority by:

(1) Encouraging an effective OSH Program.

(2) Correcting recognized hazards promptly.

(3) Assigning individual OSHE responsibilities to subordinates as required.

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(4) Ensuring that specific mention of OSH accountability is contained in the performance plans of all subordinates whose positions are deemed supervisory under the Office of Personnel Management (OPM) Classification/Job Grading System.

(5) Ensuring that personnel receive appropriate OSH training and, where applicable, participate in OSH committees or meetings.

(6) Encourage safety awareness through the NPS safety incentive and awards program.

(7) Receiving training appropriate to their level of responsibility and authority.

c. Department Chairs and Managers/Supervisors will:

(1) Maintain a safe and healthful workplace for all personnel under their cognizance by ensuring the provisions of this instruction are enforced within their area of responsibility.

(2) Demonstrate good leadership through example by observing occupational safety and health regulations. Ensure that each person under their supervision is adequately trained concerning occupational safety and health rules, regulations, and processes pertinent to each job being performed, and that necessary safety precautions are being observed. Submit timely memoranda of all workplace safety training to the OSHE Directorate Office.

(3) Ensure all injured personnel receive prompt medical attention and that all-occupational mishaps and illnesses are investigated and reported to the OSHE Office.

(4) Encourage employees to report unsafe/unhealthful conditions. Personally investigate and correct unsafe/unhealthful working conditions with the assistance and guidance of the NPS OSHE Directorate.

(5) Provide the OSHE Directorate office with timely written and signed reports of actions taken to abate OSHE inspection deficiencies including full explanation of pertinent circumstances of those deficiencies requiring over 30 days to correct.

(6) Inspect all assigned areas to identify hazards and unsafe practices. Immediately initiate necessary action to correct or control each discrepancy noted.

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(7) Ensure approved personal protective equipment required for each specific job assignment is available and enforce the use of such equipment in all areas and processes.

(8) Encourage a free flow of information and ideas from employees on methods of improving the safety of their workplace, work practice, and work processes.

(9) Ensure that plans and specifications for research projects, new construction, and modification of buildings and facilities, have been prepared with thorough and critical consideration given to the safety of personnel and property. Those plans and specifications will be forwarded to the OSH Manager for review prior to final approval.

d. Principal Investigators and Lab Managers are responsible for:

(1) Working with the OSHE Directorate to identify hazardous conditions or operations in their lab, determine procedures and controls, and implement and enforce standard safety procedures.

(2) Establishing standard operating procedures (SOPs) relevant and required to ensure safety.

(3) Maintaining inventory of all hazardous materials and the corresponding Safety plan for dealing with these materials and preparing for response to possible eventualities.

(4) Training laboratory personnel and inform personnel of the location and availability of Hazard Information.

(5) Maintaining personal and laboratory safety equipment.

(6) Conducting periodic regular laboratory inspections and maintain records of inspections.

(7) Immediately report laboratory accidents and injuries to the NPS OSHE Directorate office.

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(8) Insuring only authorized/safety-trained personnel are given access to hazardous labs or locations requiring such authorization and that the areas are marked accordingly.

(9) Maintaining mishap trends, safety surveys, assessments, and hazard reports.

(10) Notifying/Recommending subordinate personnel for enrollment in any medical surveillance program as identified by the BUMED servicing Industrial Hygienist (servicing IH).

(11) Maintain a safe and healthful workplace for all personnel under their cognizance by ensuring the provisions of this instruction are enforced within their area of responsibility.

(12) Demonstrate good leadership through example by observing occupational safety and health regulations. Ensure that each person under their supervision is adequately trained concerning occupational safety and health rules, regulations, and processes pertinent to each job being performed, and that necessary safety precautions are being observed. Submit timely memoranda of all workplace safety training to the OSHE Directorate Office.

e. Department Safety Coordinators will facilitate and coordinate all safety related items in their department. Administrators, managers, supervisors, researchers, and professors are all responsible for safety compliance and administration. In order to act as the safety point of contact in their department and to help ensure their department is compliant with safety and environmental regulations, Safety Coordinators will become familiar with and follow guidelines in this instruction and it's associated references. In addition, Safety Coordinators will:

(1) Represent their department at command wide safety meetings. Notification will be given of such meetings by Command safety officers.

(2) Serve as their departmental safety point of contact:

(a) With NPS Safety and NSAM Safety and Environmental, and Industrial Hygiene support personnel for scheduling inspections and required specialty OSH training with various departmental employees.

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(b) For assisting NPS Safety with establishing Medical Surveillance/Occupational Health appointments.

(c) With the Building coordinator and Facilities for their department where safety and environmental is a concern.

(3) Safety and Environmental Maintenance.

(a) Assist Principal Investigators and other responsible individuals in maintaining Safety and Environmental standards within their department or assigned areas. This includes ensuring maintenance of all departmental safety equipment and postings, such as safety bulletins and caution, warning, and danger signs, posters, and labels.

(b) Assist Principal Investigators and other responsible individuals in developing and maintaining departmental safety SOPs.

(4) Safety and Environmental Training and Awareness.

(a) Attend Introduction to Navy Occupational Safety and Health (A-493-0050) offered through the Naval Safety and Environmental Training Center within six months of appointment. Contact NPS Safety for the course schedule and registration. Provide NPS Safety a copy of the completion certificate.

(b) Provide new employees with information concerning unique departmental safety issues, SOP's, and Emergency Procedures. Facilitate all personnel knowing all Emergency Procedures and phone numbers provided through NPS and NSAM instructions.

(c) Track and assist supervisors in providing quarterly recreational off duty safety and monthly "Safety Talks" training. Presentation material is provided by the NPS and NSAM Safety Offices. Training is in accordance with the Occupational Safety and Health OSH Training Plan and the OPNAVINST 5100.23G Chapter six.

(d) Ensure staff who work with hazardous or regulated machines, materials, equipment, or processes such as (but not limited to) lasers, radiation, nanomaterials, controlled biological agents, explosives, are included in Safety training programs.

(e) Facilitate safety supervisor training through ESAMS for any person who supervises one or more personnel. This is normally meant for E5 and above.

(f) Check to ensure all safety related training is documented in ESAMS. Advise all supervisors to document training in ESAMS. Maintain training for a period of five years, unless otherwise directed.

(5) Inspections

(a) Accommodate professional occupational safety and health staff during routine workplace inspections.

(b) Perform safety related workplace assessments when needed.

(c) Ensure all departmental eyewash/shower facilities are checked weekly and have documentation.

(d) Track monthly departmental work space inspections conducted by space owners to assist the NPS Safety Office in ensuring compliance with the Life Safety Code, NFPA 101.

(6) Process and track NAVOSH Deficiency Notices and associated work requests. Notify and work with the NPS Safety Office on all safety related deficiencies and requests.

(7) Assist departmental supervisors and the NPS and NSAM Safety Offices with mishap investigations and reporting.

(8) Advise supervisors and personnel to report to the Respiratory Program Manager and Medical Surveillance Program Manger if they require use of a respirator. Report all known personnel who use a respirator to these managers. All personnel who wear a respirator must receive Respiratory Protection training and fit testing upon assignment and annually thereafter. Supervisors of personnel in this category must also "at a minimum" receive the same training.

(9) Assume all responsibilities of the safety representative when no safety representative is appointed for the department.

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f. Department Safety Representatives will assist the safety coordinator for all safety related items in their department. Administrators, managers, supervisors, researchers, and professors are all responsible for safety compliance and administration. In order to assist in ensuring their department is compliant with safety and environmental regulations, Safety Representatives will become familiar with and follow guidelines in reference 3001.1. In addition, Safety Representatives will:

(1) Attend command wide safety meetings. Separate notification will be given of such meetings by Command safety officers.

(2) Serve as the alternate departmental point of contact for various safety items when necessary (i.e. safety inspections, medical surveillance coordination, facilities when safety and environmental is a concern).

(3) Safety and Environmental Maintenance.

(a) Assist the safety coordinator in maintaining Safety and Environmental standards within their department or assigned areas.

(b) Assist Principal Investigators and other responsible individuals in maintaining all departmental safety, caution, warning, danger, signs, posters, labels, etc.

(c) Serve as the departmental focal point for assisting in ordering and issuing personal protective equipment.

(d) Maintain Safety Bulletin Boards with current information. All Safety Bulletin Board items are provided by NPS Safety.

(4) Safety and Environmental Training and Awareness.

(a) Recommend attending Introduction to Navy Occupational Safety and Health (A-493-0050) offered through the Naval Safety and Environmental Training Center within six months of appointment. Contact NPS Safety for the course schedule and registration. Provide NPS Safety a copy of the completion certificate.

(b) Coordinate and track safety training progress on all employees and provide reports to the Department Chair and NPS Safety Office. Initial training requirements include NAVOSH

Programs, HAZCOM, Ergonomics, and ORM. NAVOSH Programs, HAZCOM, and Ergonomics are provided through ESAMS. ORM is provided through NKO, with a link from ESAMS.

(c) Assist the Safety Coordinator with tracking quarterly recreational off duty safety and monthly "Safety Talks" training provided by supervisors.

(d) Document all safety related training in ESAMS. Maintain training for a period of five years, unless otherwise directed.

(5) Inspections.

(a) Assist the Safety Coordinator in performing safety related workplace assessments when needed.

(b) Check all departmental eyewash/shower facilities weekly using the NPS Eyewash/Shower Safety checklist-document check.

(c) Assist the safety coordinator in tracking monthly departmental work space inspections conducted by space owners to assist the NPS Safety Office in ensuring compliance with the Life Safety Code, NFPA 101.

(6) Assist the safety coordinator in tracking NAVOSH Deficiency Notices and associated work requests.

(7) Report all known personnel who use a respirator to the safety coordinator or NPS Safety if unavailable.

g. NPS Personnel Responsibilities (Military and Civilian). Personal awareness is the key to achieving safe and healthful workplaces. NPS personnel shall:

(1) Observe all occupational safety and health regulations and procedures applicable to the workplace.

(2) Report to immediate supervisor any condition, equipment or material considered to be unsafe or likely to develop into a hazard.

(3) Immediately cease the use of any equipment or appliance, which malfunctions, or is in violation of a safety or health standard or regulation.

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(4) Warn others who may be endangered by known hazards.

(5) Report to supervisory personnel any mishaps, injury, or evidence of impaired health occurring during the course of work.

(6) Wear or use protective clothing and equipment for the safe performance of the work being accomplished.

(7) Report for work suitably groomed and clothed for assigned tasks. Suitable clothing is that normally worn and in general use by members of the trade or profession involved. Certain hairstyles and beards become hazardous around machinery and open flames. They may also interfere with vision or use of respiratory protection devices. Long hair shall be suitably restrained in caps or nets and beards prohibited when considered a hazard in the workplace. Jewelry and loose clothing shall not be worn in areas where they subject the wearer to increased hazard. Eye, hearing, or prosthetic devices must be maintained in good functional order and utilized while in the workplace.

(8) Keep work areas safe, organized, and uncluttered

(9) Never work alone under potentially hazardous conditions.

Chapter 2 References

- 2-1. SECNAVINST 5100.10J, Department of the Navy Policy for Safety, Mishap Prevention, Occupational Health and Fire Protection Programs, 26 Oct 2005
<http://doni.daps.dla.mil/allinstructions.aspx>.
- 2-2. DoD Instruction 6055.1, DoD Safety and Occupational Health (SOH) Program, of 19 Aug 98
<http://www.dtic.mil/whs/directives/corres/ins1.html>.
- 2-3. DoD Instruction 6055.05, Occupational and Environmental Health (OEH), of 11 Nov 2008
<http://www.dtic.mil/whs/directives/corres/ins1.html>.
- 2-4. SECNAV Manual 5210.1, Department of the Navy Records Management Manual, of Nov 2007
<http://doni.daps.dla.mil/secnavmanuals.aspx>.
- 2-5. DoD Instruction 6055.07, Accident Investigation, Reporting and Record Keeping, of 6 Jun 2011
<http://www.dtic.mil/whs/directives/corres/ins1.html>.
- 2-6. SECNAVINST 5211.5E, Department of the Navy Privacy Act Program, of 28 Dec 2005
<http://doni.daps.dla.mil/allinstructions.aspx>.
- 2-7. SECNAVINST 5720.42F, Department of the Navy Freedom of Information Act Program, of 6 Jan 99
<http://doni.daps.dla.mil/allinstructions.aspx>.
- 2-8. DoD Military Standard 882D, Standard Practice for System Safety, of 10 Feb 2000
https://assist.daps.dla.mil/quicksearch/basic_profile.cfm?ident_number=36027.
- 2-9. Executive Order 12344, Naval Nuclear Propulsion Program, of 1 Feb 82
<http://www.archives.gov/federal-register/codification/executive-order/12344.html>.
- 2-10. N09F-NTSP-S-40-8603E/A, Navy Safety and Occupational Health Navy Training System Plan (SOH NTSP), May 2009
http://www.public.navy.mil/navsafecen/Documents/instructions/OPNAV_Policy/SOH_NTSP_Update_Mar2011.pdf.

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2-11. OPNAVINST 5102.1D/MCO P5102.1B, Mishap Investigation, Reporting and Record Keeping, of 7 Jan 2005

<http://doni.daps.dla.mil/allinstructions.aspx>.

2-12. DON Civilian Human Resources Manual, Subchapter 752, Disciplinary Actions, of December 2003

http://www.public.navy.mil/donhr/Documents/Civilian%20Human%20Resources%20Manual/752_SUBCHNEW.pdf.

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CHAPTER 3
ORGANIZATION AND STAFFING

0301. Discussion.

Per reference 3-5:

a. Each shore activity not receiving Base Operating Support (BOS) safety services from their cognizant Navy Region shall have a safety organization, staffed and organized commensurate with the mission and functions of the command. A safety professional shall head the safety organization and shall have the authority, responsibility, and visibility to manage and represent effectively the activity's safety program. Implementation of the safety program is considered a command staff level function. Accordingly, the head of the safety organization shall report directly to the commanding officer of the shore activity.

b. Shore activities receiving BOS safety services from their cognizant Navy Region shall establish an organizational chart that includes safety as a staff function, reporting to the commanding officer. The description of this function shall state that the regional host safety department provides this service.

c. In order to achieve the above referenced OPNAV objectives, Naval Postgraduate School (NPS), in coordination with Naval Support Activity Monterey (NSAM) and NAVFAC Monterey has developed an organizational structure that is cohesive and collaborative in nature to ensure compliance with OPNAV NAVOSH directives. The NPS Occupational Safety Health and Environmental (NPS OSHE) Directorate must provide direct consultation and liaison to the NPS President while concurrently serving as the school's focal point on all OSHE-related matters.

0302. Staffing

a. Occupational Safety, Health, and Environmental staffing levels are based on the total number of NPS personnel, the number of NPS personnel working in various occupational risk categories (e.g., high hazard), and the number of core and peripheral NAVOSH Programs that the NPS Occupational Safety Health and Environmental (NPS OSHE) Directorate must support. Reference 3-5, Chapter 3, provides the formula that was used to calculate the NPS staffing levels.

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b. Enclosure 3-A details the NPS OSHE Directorate (Code 00K) organizational structure. Of note, the NPS Research Safety Head and associated personnel operate under the purview/budgetary oversight of the NPS OSHE Director; however, they are directly embedded into the Dean of Research's organization. This organizational architecture enables NPS OSHE Directorate personnel to work and communicate directly with NPS researchers facilitating a full "cradle to grave" research support system within NPS.

Chapter 3 References

3-1. OPNAVINST 5102.1D/MCO P5102.1B, Navy and Marine Corps Mishaps and Safety Investigation, Reporting and Record Keeping Manual, of 7 Jan 05,
<http://doni.daps.dla.mil/Directives/05000%20General%20Management%20Security%20and%20Safety%20Services/05-100%20Safety%20and%20Occupational%20Health%20Services/5102.1D%20w%20CH-2.pdf>.

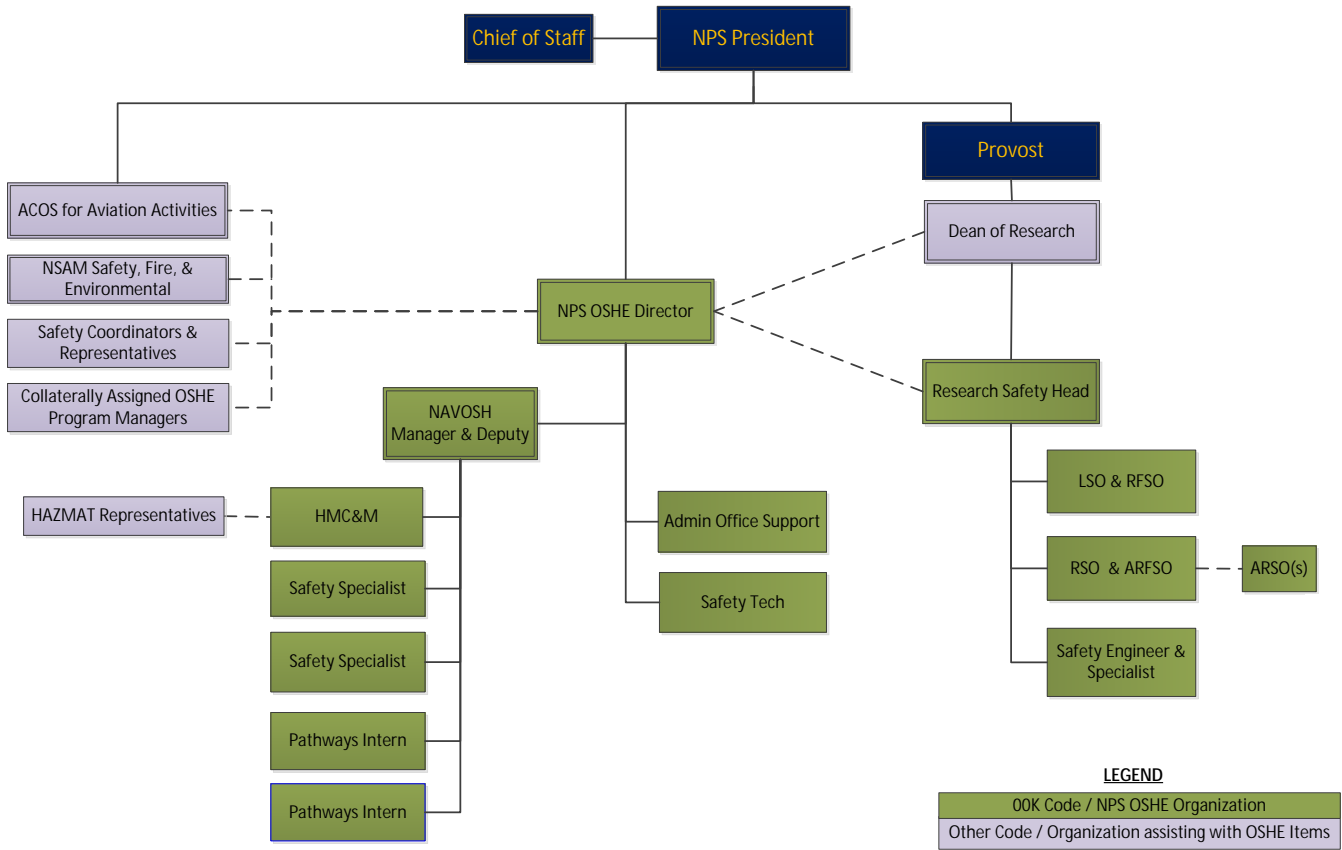
3-2. OPNAVINST 5100.12J, Navy Traffic Safety Program, of 6 June 2012,
<http://doni.daps.dla.mil/Directives/05000%20General%20Management%20Security%20and%20Safety%20Services/05-100%20Safety%20and%20Occupational%20Health%20Services/5100.12H%20C H-1.pdf>.

3-3. OPNAVINST 5100.25B, Navy Recreation and Off-Duty Safety Program, of 25 Nov 09,
<http://doni.daps.dla.mil/Directives/05000%20General%20Management%20Security%20and%20Safety%20Services/05-100%20Safety%20and%20Occupational%20Health%20Services/5100.25B.pdf>.

3-4. Naval Education and Training Professional Development and Technology Center (NAVEDTRA) 10076A, Career Development Program for Safety and Occupational Health and Industrial Hygiene Personnel, of Sept 97,
https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_ww_pp/navfac_hq_pp/navfac_sf_pp/navfac_sf_topics/sf_professional/careerdev.pdf.

3-5. OPNAVINST 5100.23 (series), Navy Occupational Safety and Health (NAVOSH) Program Manual

Appendix 3-A



Notes:

1. Positions are dual hatted to function as ALSO, ARSO, ARFSO, etc.
2. Intern positions mitigate backlog & help determine further requirements.
3. Hiring panels for OSHE personnel consist of the OSHE Director, Research Safety Head, and others as needed.
4. Total program, budgetary, and HR authority lay with the OSHE Director. Research Safety Head is supervised by the DoR with input from the OSHE Director.

Appendix 3-B

Job Hazard Categories

Review manpower authorization lists to identify all jobs by hazard exposure category as listed below. The number of personnel performing jobs in each category are totaled and entered into the equation in paragraph 0303d. Most activities will have employees in more than one category. The following work center descriptions are examples of the type of work performed in each job hazard category. They are not all inclusive:

JOB HAZARD CATEGORY	HAZARD LEVEL	WORKCENTER DESCRIPTION
A	HIGH	<p><u>INDUSTRIAL OPERATIONS</u>: Machine shop (cutting, grinding, machining, drilling, planning and shaping metal); arc and acetylene welding; foundry operations (work with molten metals); electroplating; abrasive blasting; solvent cleaning operations; high-voltage electrical work; power plants (i.e., steam or electrical generation); ship repair work; aircraft rework; and spray painting.</p> <p><u>MEDICAL</u>: Radiation sources, communicable diseases, contaminated medical substances and handling chemicals.</p> <p><u>HEAVY EQUIPMENT OPERATIONS AND MAINTENANCE</u>: Heavy equipment operations (bulldozers, cranes and earth movers); repair and maintenance of large motors, engines and materials handling equipment (i.e., tower and bridge cranes).</p> <p><u>TOXIC/HAZARDOUS MATERIALS HANDLING</u>: Work involving use or cleanup of acids, corrosives, reactives, pyrophoric materials, carcinogens, pesticides, radioactive material and other high hazard chemicals or materials (asbestos, PCBs, etc.).</p> <p><u>CONSTRUCTION</u>: Construction or repair of piers, warehouses and buildings to include all building trades (i.e., painters, carpenters, sheet metal workers, plumbers, electricians, roofers, tilers, masons, concrete workers, and work on scaffolding, communication towers, or other high risk</p>

JOB HAZARD CATEGORY	HAZARD LEVEL	WORKCENTER DESCRIPTION
		work). <u>OTHER</u> : Work involving extreme exposures to heat, cold, diving and salvage, heights or other high risk work.
B	MODERATE	<u>SUPPLY/TRANSPORTATION</u> : Movement of materials in storage facilities using forklift trucks, overhead cranes and powered hand trucks, where materials are stacked above three feet in height. Manual material handling and lifting (i.e., assembly line, exchanges and warehouse operations). <u>MECHANICS</u> : Repair and maintenance of automotive vehicles, building maintenance, and aircraft maintenance. <u>RDT&E</u> : Engineers, test mechanics, and laboratory personnel involved in the RDT&E of systems.
C	LOW	<u>ADMINISTRATIVE, CLERICAL, CLASSROOM</u> : Those positions that involve primary work in an office environment but may include visits to worksites for inspection or evaluation.
D*		<u>SHIPBOARD PERSONNEL</u> : Those positions that involve working on board ships at sea.
E*		<u>OPERATING FORCES</u> : Those positions on shore and at sea that involve the operation and support of aircraft operations.
F*		<u>STUDENTS</u> : Positions allotted to personnel who are receiving formal, offsite training in excess of five working days.
A	HIGH	NAVSHIPYD, SRF, SIMA, AIMD, NAVAVNDEPOT, PWC, WEAPONSORDNANCE STATION, MEDICAL/DENTAL ACTIVITIES, CONSTRUCTION ACTIVITY (NMCB, NMOBU, NMCBR), SURFACE WARFARE CENTERS, TEST CENTER OR LAB, SUB IMA.
B	MODERATE	NAS, NAF, NAVSTA, NAVCOMTELSTA, NCTAMS, NAVCOMMU, FISCs, TRADE SCHOOLS (only those involving the teaching of industrial operations, repair or maintenance operations).
C	LOW	NAVPRO, HEADQUARTERS, and all activities with

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JOB	HAZARD	HAZARD	WORKCENTER DESCRIPTION
CATEGORY	LEVEL		
			primarily office or classroom work.
D*			Personnel serving onboard CV, CVN, AS, LHA, LHD, DD, CG, DDG, FFG, LPD, LSD, LCC, PC, AGF, ARS, AOE, MCM, MHC, SSG, AAGSS, SSN, SSBN and other ships not designated. All applicable MSC ships.
E*			Wings, air squadrons.
F*			Students at FTCs, NTCs, OCS, Aviation OCS and midshipmen at U.S. Naval Academy.

CHAPTER 4
COUNCILS AND COMMITTEES

0401. Discussion

Occupational Safety and Health (OSH) committees and councils serve as forums for multiple viewpoints and interests of the various research and support groups on matters relating to the Navy Occupational Safety and Health (NAVOSH) Program. These groups serve the NAVOSH Program and other safety-related programs by identifying, defining, and assessing OSH problem areas; and by recommending corrective measures for policy discrepancies. From these recommendations, new or revised policies and procedures may be developed. Minutes of these committee meetings are maintained in the Naval Postgraduate School (NPS) Occupational Safety, Health, and Environmental (OSHE) Directorate.

0402. Non-Ionizing Radiation Safety Committee

Possession or use of certain laser and/or non-ionizing radiation products and systems are controlled through the NPS Laser Safety Program and Radio Frequency Programs administered through the NPS OSHE Directorate. Purpose, background, scope, policy, membership, responsibilities, and charter details are located within NAVPGSCOLINST 5100.27A (see reference 4-4).

0403. NPS Hazardous Material Control & Management Committee (HMC&MC)

The HMC&MC is an advisory body for all aspects of the NPS HMC&M program. The primary purpose of the committee is to review NPS HMC&M policy and procedures and advise the NPS Hazardous Material Coordinator, ensuring NPS is in compliance with local, state and federal regulations.

a. The mission of the HMC&MC is to enhance protection of NPS faculty, staff, students, contractors, the public, the environment and NPS property through advice and consent of actions taken in support of the NPS Hazardous Material Control & Management program.

b. The HMC&MC is a standing committee responsible for the oversight of the NPS HMC&M program. In fulfillment of this role, the committee reviews and advises on policies, rules and procedures for the control & safe use of hazardous materials.

c. The HMC&MC is responsible for the following:

(1) Providing recommendations to the NPS HMC&M and the NPS OSHE Director on all aspects of the NPS HMC&M program involving hazardous material (HM) and hazardous waste (HW) controls, safe practices, training, industrial health, hygiene policies, and environmental concerns. Furthermore, the HMC&MC is responsible for ensuring seamless integration of the NPS and NSAM HAZMAT programs.

(2) Periodically reviewing the NPS's operations involving HM and recommending additions and /or deletions to the NPS Authorized Use List (AUL) to the NPS HMC&M. Advises the HMC&M on procedures to develop, conduct, review, edit, audit, and approve NPS's list of hazardous chemicals and AUL.

(3) Conducting annual reconciliations between the AUL and HM on hand and reports discrepancies to the NPS OSHE Director and NSAM HAZMAT Coordinator along with suggestions for corrective action.

(4) Recommending limitations on quantities of HM both used and stored for various NPS operations and processes based, in part, on the reviews conducted above.

(5) Reviewing the items outlined above to identify a possible substitute processes or materials which would reduce NPS HM use and HW, or other hazards.

(6) Meeting quarterly or upon the call of the Chairperson, whichever is the shortest timeframe between meetings.

(7) Keeping records of all meeting and actions of the committee.

(8) Recommending approval or disapproval of any proposed storage site for HM and HW onboard NPS. Maintaining each identified location for emergency response purposes, as required.

(9) Reviewing the methods and procedures for HMC&M.

(10) Recommending content and purveyor of training programs for HMC&M.

(11) Reviewing internal HMC&M program reviews and audits, so as to monitor overall trends of HM and HW quantities, and make appropriate recommendations to improve program effectiveness. Furthermore, the HMC&MC will propose annual goals to the NPS HMC&M and NPS OSHE Director for reducing HM use and HW generation.

(12) Making recommendations for locating MSDSs for worker access and for local exemptions and exclusions of occupations and locations involved with HM; e.g., administrative offices.

(13) Making recommendations for local exemptions and exclusions of business operations located in Monterey County involved with HM/HW under the specific exempt business categories enforced by the local CUPA, MRWPCA and Region 9 Air District.

Note:

Authority for granting, denying, changing, or removing items from the NPS AUL rests with the NPS HAZMAT Program Manager (NPS HMC&M) in accordance with all regulations and requirements as set forth by the NSAM HAZMAT program manager.

d. HMC&MC Membership

(1) The HMC&MC at NPS is chaired by the NPS HMC&M and should be composed of the following positions or titles:

- (a) NPS OSHE Directorate
- (b) Engineering
- (c) Operations
- (d) Technical Specialist (Chemist)
- (e) Production Planning, Production Departments
- (f) Medical (Occupational Health, Industrial Hygiene, Emergency Medical Care)
- (g) Police/Fire Department

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(h) Public Works Center (Contracting Rep & HW Disposal)

(i) Shipping and Receiving

(j) Procurement

(k) Emergency Response Personnel

(l) NPS Departmental HAZMAT Representatives

(m) NSAM HAZMAT program manager

(2) The membership process consists of formal appointment to the Committee from the Chief of Staff. Members shall be appointed for a renewable term of two years. Nominations for membership may be made by existing Committee members to provide representation from major academic and research areas that use hazardous materials.

(3) The Committee Chair has the responsibility for conducting regular committee meetings and implementing the control functions of the committee.

e. Attendance, Alternates, and Replacements

(1) Regular attendance shall be required at committee meetings. In the event that a member does not attend four consecutive meetings, at the discretion of the Chair, the Committee may vote to request the Chief of Staff, appoint a replacement.

(2) To plan for temporary absences, each Committee member may, with the consent of the Chair, appoint a designated alternate for a particular meeting. The designee may represent the absent committee member in all aspects of committee participation, and shall have the responsibility and authority to act on behalf of that member.

(3) A committee member may nominate a qualified replacement at any time during the appointed term for the remainder of that term. A formal letter from the Chief of Staff shall be required to document member appointment. In the event a member or designee leaves NPS, membership is automatically terminated.

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(4) The chair shall document changes to membership and designated attendance in writing.

f. Meetings, Agenda, and Quorum. The committee meets at least once during each calendar quarter, or more frequently, at the discretion of the chair. The committee shall meet to advise on unresolved or new HM/HW issues, non-routine request, or uses which require extra command coordination or cooperation. A quorum consists of 4 or more current members, and must include a representative from executive management, and the HMC&M. All members present are entitled to vote. Committee decisions are made by the majority vote of a quorum of committee members. Between meetings, decisions may be made by electronic vote. Parliamentary procedures shall be determined by Robert's Rules of Order, as appropriate.

g. Reports, Records, and Minutes

(1) The minutes of the Committee meetings, together with all reports submitted to the committee, serve as the official documentation of the Hazardous Material Control and Management program of NPS. The minutes of each meeting shall include the date of the meeting, the members present, a summary of deliberations and discussions, and recommended action items. Minutes shall be reported within 10 working days to the full committee. Following each meeting, minutes shall be prepared in draft form and copies sent to all members for review and comment. A majority vote at the next meeting shall be taken to approve the minutes.

(2) A copy of the minutes of all committee meetings, with all subcommittee reports and attachments, shall be submitted annually to the NPS archives and retained with Hazardous Material Control and Management office files for permanent storage in accordance with NPS policy, where it shall be maintained until disposal is authorized by the regulations of the licensing body.

h. Subcommittees. The committee may establish subcommittees to perform specific functions. Each subcommittee shall submit a written report of its activities and action to the committee for each quarter in which it was active. Any authority granted to a subcommittee is subject to approval for action by the full committee. As described above, each subcommittee report accepted by the committee becomes part of the record filed in NPS archives or retained with the HMC&M office files.

Enclosure (1)

0404. NPS Radiation Safety Committee (RSC)

The RSC purpose, scope, mission statement, discussion, responsibilities, and membership are located at NAVPGSCOLINST 6470.1G (enclosure 22) (Reference 4-3).

0405. NPS Safety Council

a. Function - An informative forum for command leadership to discuss command safety related injury stats, goals, policy changes, prevention methods, issues, inspection and assessment results, committee summaries, and environmental concerns.

b. Membership - NPS OSH Council membership is comprised of key NPS leadership, including but not limited to:

- (1) President (Chair)
- (2) COS
- (3) Provost (Co-Chair)
- (4) NPS OSHE Director
- (5) Director of Facilities
- (6) Dean of Students
- (7) Dean of GSBPP
- (8) Dean of GSEAS
- (9) Dean of GSOIS
- (10) Dean of SIGS
- (11) Comptroller
- (12) Chief Information Officer
- (13) Director of Human Resource
- (14) Security Manager
- (15) RSO
- (16) LSO
- (17) Research Safety Head
- (18) NPS HMC&M

c. Frequency - The Council shall meet Annually, as scheduled. Meeting minutes shall be maintained and disseminated by NPS OSHE Directorate.

0406. NPS Safety Committee

a. Function - : The NPS Safety committee identifies, defines and assesses safety related issues, problems and needs, recommends corrective measures and assigns action officers. Specific functions include, but are not limited to:

- (1) Develop and maintain active interest in OSH by all NPS personnel.
- (2) Serve as the point of contact for NPS OSHE issues.
- (3) Provide program assistance, including proposing policy and program objectives, to the NPS Safety Council.

b. Membership - NPS OSH Council membership should be drawn from representative Divisions or organizations on campus, to include key NSAM organizations as well. There will be three permanent Council members, the NPS Chief of Staff, the NPS Dean of Research, and the NPS OSHE Director. The NPS Chief of Staff and the NPS Dean of Research co-chair the OSH council. Members are appointed by the NPS Chief of Staff for indefinite terms. The Council shall meet monthly, as scheduled. Meeting minutes shall be maintained and disseminated by NPS OSHE Directorate.

0407. Safety Awards Board

a. Function. The Safety Awards Board is charged with selection of NPS SAFETY CASH AWARDS AND INCENTIVES PROGRAM Recipients. The Board may use any selection process that fairly evaluates and chooses from the available nominees in a manner best suited to the NPS Safety environment; however, final selection will be by vote of the board members as described below. While some latitude and flexibility is intentionally provided in the selection process, selection criteria and method and any subsequent changes to this procedure shall be agreed upon by at least 2/3 of the presiding board, including the Board Chairman, and jointly approved by the NPS Chief of Staff and Dean of Research. This methodology shall be promulgated in writing prior to selection of a nominee. In developing and making changes to such policy, board members may find the judging criteria of reference 31-1 helpful in choosing awardees; but use of these criteria is not mandatory.

b. Membership. The Board shall consist of the following three permanently assigned safety professionals:

- (1) The NPS OSHE Director
- (2) The NPS Research Safety Director
- (3) The NSAM Safety Officer.

Board Chairmanship shall rotate on an annual basis among the permanently assigned members. The Chairman may also assign a Board secretary to document official actions of the Board. The assignment shall be in writing and this member when assigned is non-voting. The Board shall also include no less than 3 and no more than 6 other ad hoc (e.g. departmental or subordinate safety department) voting members. Each ad hoc member chosen and assigned serves at the pleasure of the chairman and normally for not more than a two-year appointment. Each assigned board member shall have one equal vote in all official Board proceedings. All awards are to be by vote of the Board following consideration of the current selection criteria. An "approved" vote is by simple majority of a convened quorum. A quorum may be convened either physically or by electronic means (e.g. VTC and/or e-mail vote with a deadline). A quorum is constituted by a presence of at least 60% of the currently assigned members. The NPS Chief of Staff is not a member of the Board but shall have authority to break tie votes. The NPS Chief of Staff, Dean of Research, and President shall be informed of all proposed Award Recipients and shall approve the selection of the Board nomination for the Annual Award Recipient prior to announcement and granting of incentives.

0408. NSAM Environmental Management System Executive Steering Committee (ESC)

a. The Purpose of the NSAM ESC is to effectively manage the NSAM environmental compliance and conservation programs and achieve sustainability goals.

b. NPS personnel will attend and participate in the NSAM ESC as required/requested by the NSAM OSHE program manager and will adhere to the guidelines set forth in NSAMINST 5090.2

0409. Explosives Ordnance Qualification/Certification Board

a. The Purpose and responsibility of the Explosives Ordnance Qualification/Certification Board is to ensure the implementation of the Navy Personnel and Explosives Handling Qualification and Certification Program as described in OPNAVINST 8023.24B. The Board serves as the NPS President's primary means of ensuring adequate training and qualification of personnel assigned duties involving ammunition and explosives. Additionally, the Board evaluates all explosives safety related infractions, incidents, events, mishaps, and accidents that occur at NPS.

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b. Board membership consists of the Board Chair and at least one additional board member, designated in writing by the NPS President. Furthermore, the NPS President shall consult the Board on all issues of culpability and decertification/revocation for explosive ordnance related issues and/or personnel.

c. The Explosives Ordnance Qualification/Certification Board will meet as required, but not less than at least bi-annually, to ensure adequate safety oversight of explosive ordnance related research efforts.

Chapter 4
References

- 4-1. OPNAVINST 5100.23 (series), Navy Occupational Safety and Health (NAVOSH) Program Manual
- 4-2. Executive Order 12196; "Occupational Safety and Health for Federal Employees," 26 Feb 1980 (NOTAL)
- 4-3. NAVPGSCOLINST 6470 1G (enclosure 22)
- 4-4. NAVPGSCOLINST 5100.27A (reference G)
- 4-5. NAVPGSCOLINST 5090.1 (Series, current change and revision), FACILITY HM CONTROL & MANAGEMENT (HMC&M) PROGRAM POLICY

CHAPTER 5
TRAINING

0501. Discussion

a. The training objective of Naval Postgraduate School's (NPS) Safety Program is to help ensure adherence to safe operating practices and procedures by providing all personnel with the knowledge required to identify job-related hazards as well as a practical understanding of the strategies necessary to control them. To attain this type and level of knowledge, a well-developed and coordinated training effort keyed to all levels and types of personnel is required. Furthermore, references 5-1 and 5-2 require annual training for all management, supervisory personnel, and employees working in potentially hazardous work situations.

b. The Enterprise Safety Application Management System (eSAMS) is to be used by all NPS personnel to train, maintain NAVOSH program records, and sustain a safety culture that pervades all aspects of mission accomplishment.

0502. Definitions

a. Top Management OSHE Training. Top management personnel are identified as: President, Provost, Chief of Staff, Vice Provost for Academic Affairs, Dean of SIGS, Dean of GSOIS, Dean of GSEAS, Dean of GSBPP, Dean of Research, University Librarian, Dean of Students, Staff Directors and Special Staff. Training for top management is mandatory and is designed to provide management with a basic understanding of the NPS Safety Program to include the strengths and weaknesses of their individual areas of responsibility. Additionally, management shall attend a Safety Program Assessment briefing provided by the NPS' Occupational, Safety, Health, and Environmental (OSHE) Directorate pertaining to their areas of responsibility that will focus on 4 key elements: mishap prevention, regulatory compliance, supervision, and training. Last, management shall generate their own Departmental Safety Reports in eSAMS to review and ensure personnel compliance with training.

b. Supervisory Safety Training. This training assists supervisors in managing his/her safety programs in the work place and provides the opportunity to be updated on new changes and new skills that will assist supervisory compliance with reference 5-1. The training has several modules and is provided per appendix 5-A. The training must be taken upon check-in or

assignment of supervisory duties; refresher training may be required for some modules. Completion of training automatically records attendance for tracking purposes.

c. New Employee Safety Orientation. New staff and faculty members shall be provided an overview of the NAVOSH Program and employee and supervisory responsibilities for maintaining a safe and healthy work environment. This training is provided per appendix 5-A. The training must be taken upon check-in or assignment of duties; refresher training may be required for some modules. Completion of the training module automatically records attendance for tracking purposes.

d. Monthly Occupational Safety and Health Topics. All personnel within an organizational unit shall participate in a monthly OSHE topic lesson. Monthly topics may either be provided via e-mail or via eSAMS or in-person by the Code Safety Coordinator or supervisor. The schedule for the monthly safety talks is established below, unless modified by the NPS OSHE Directorate. These sessions are designed to improve safety awareness and to increase mishap prevention efforts. Topics of timely interest in addition to those listed below, may also be provided.

October	-	Unsafe/Unhealthful Working Conditions
November	-	Earthquake Safety
December	-	Holiday Safety
January	-	Safe Driving
February	-	Asbestos Awareness
March	-	Laser/RFR Awareness
April	-	Recreational Athletic & Home Safety
May	-	Bicycle Safety
June	-	Office Product Hazmat
July	-	Lead Awareness
August	-	Rights/Responsibilities
September	-	Fire Extinguisher and Fire Prevention

Note: All monthly training must be documented in eSAMS, regardless of how the training is conducted.

e. Hazardous Material/Hazard Communication Training. HAZMAT/HAZCOM training is required to familiarize all personnel to the HMC&M program as discussed in Chapter 7 of reference 5-1. The type of HAZMAT/HAZCOM training that is provided is dependent upon occupation, as described below:

- (1) Emergency Response, Hazardous Waste Handlers, and

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Clean-up Personnel: 40 hour initial and 8 hour annual refresher training is required per 29 CFR 1910.1200. Contract vendor provides training.

(2) Departmental Hazardous Material Representatives: Naval Education and Training Center (NETC) course A-493-0031 (Introduction to HAZMAT ashore) is required per OPNAVINST 5100.23(series).

(3) Personnel Occupationally Exposed to Hazardous Material: Training is provided by the employee's supervisor and/or the Departmental Hazardous Material Representative, is tailored to individual jobs and specific exposures, and is given before handling associated hazardous material. The OSHA HAZCOM Standard does not establish time requirements for training, but instead depends upon employee knowledge of the standard, the HAZCOM Plan, chemical job hazards, and safe performance of the job

(4) Administrative Personnel: Training involving the hazards associated with typical office supplies and cleaning agents is provided by the employee's supervisor and/or Department Safety Coordinator during initial job training and/or as a Monthly OSH Topic, during the month of June. Training information is available via eSAMS or by contacting the NPS HMC&M Coordinator.

f. Hearing and Sight Conservation. This training is required on an annual basis for individuals enrolled in the sight and hearing conservation medical surveillance programs. Sight conservation topics include the Navy's sight conservation program elements, and selection of various types of eye protection. Hearing conservation topics include such things as off-duty conservation practices, proper wearing of hearing protection devices, and the elements of the Navy's hearing conservation program. Those employees and supervisors requiring such training shall complete the training by reviewing the Sight and Hearing Conservation information that is available via eSAMS per appendix 5-A.

g. First Aid & Cardiopulmonary Resuscitation (CPR). CPR certification is required annually; First Aid certification is required every three years. Training is required for the following personnel, but highly encouraged for all personnel:

(1) Emergency Response teams,

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- (2) Fire Department personnel,
- (3) Police Department personnel,
- (4) Hospital Corpsman,
- (5) Safety and Industrial Hygiene personnel,
- (6) Electrical power plant, and Electronics Technician, Lifeguards, Supervisors of above personnel

Other NPS employees that desire CPR and First Aid Certification may also enroll in these courses by contacting the NPS OSHE Directorate. Refresher training will be conducted as necessary to maintain current certification. Qualified American Red Cross instructors from NPS or NSAM will be offering the classes on a case-by-case basis determined by the availability of the instructors in addition to the established schedule, per appendix 5-A. Please note that each class is limited to 9 students; therefore it is imperative that you contact the First Aid & CPR Training Coordinator, prior to each class listed in appendix 5-A and ensure space is available. Three different types of CPR/First Aid training will be available:

1. Adult CPR (course length: 3 hours)
2. First Aid Basics (length: 3 hours)
3. Automated External Defibrillator (length: 1 hour)

h. Ergonomics and Back Injury Prevention Training. Ergonomics and Back Injury Prevention training requirements for NPS personnel is determined based on the results of employee comfort surveys, workplace inspections, and mishap analysis. Ergonomics & Back Injury prevention training is provided via eSAMS per appendix 5-A. Departments and/or employees that may desire to receive such training are encouraged to participate in the Ergonomics training program.

i. Radio Frequency Radiation Training. Radio Frequency Radiation (RFR) safety training shall be provided, initially, to all PI's who routinely work directly with RFR equipment or whose work environment contain RFR equipment that routinely emits RFR levels in excess of the exposure limits for controlled environments. Training is individually provided by the Radio Frequency Radiation Safety Officer (RFSO) prior to RFR system operation. After initial training, it is expected that the PI will become the equipment specific Subject Matter Expert (SME)

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and shall in turn train any subordinate personnel in RFR safety. PI's shall document the training completion in eSAMS and notify the NPS RFSO for overall program accountability.

j. Laser Safety Training. Annual refresher training via monthly safety topics is required for all Class I, II, and IIIA laser operators. Annual refresher training on the hazards associated with accidental exposure to laser radiation shall be provided to all personnel in areas operating Class IIIb and Class IV lasers. This training is conducted individually by the NPS Laser Safety Officer (LSO) upon laser system operating request approval.

k. General Industry Lead Training. Lead work performed at NPS is of a non-routine nature. Training is required for those individuals who during their employment may come in direct contact with lead containing materials. NPS employees requiring such training shall complete the Lead Awareness training module on eSAMS per appendix 5-A. Lead Awareness training shall be provided to the general NPS population as part of the electronic monthly safety training topic delivered in July.

l. Blood Borne Pathogens Training. This training is required for the following personnel and their supervisors: emergency response teams, fire and police department personnel, lifeguards, child care workers, Youth Activity Center workers, gym personnel, barbers, and first aid responders and all other personnel who can reasonably be anticipated to have occupational exposure to Blood Borne Pathogens (BBP) or Other Potentially Infectious Materials (OPIM). Training is available via eSAMS . NPS employees requiring such BBP Awareness training shall complete training by reviewing the Blood Borne Pathogens training module on eSAMS per appendix 5-A.

m. Reproductive Hazards Training. This training is required for all personnel responsible for or working with any biological, chemical, or physical stressor that has the potential to adversely affect the human reproductive process. Specific locations and applications where reproductive hazards may be present in the workplace can be found on the NPS Safety intranet website:
<http://www.intranet.nps.edu/safety2008/index.html> or on the [space specific Industrial Hygiene survey](#). Those employees and supervisors requiring or desiring such training shall complete the Occupational Reproductive Hazard Awareness module provided in eSAMS per appendix 5-A

n. Asbestos Training. Annual asbestos training is required to familiarize all personnel to the Asbestos Program as discussed in Chapter 17 of reference 5-1. The type of asbestos training that is provided as scheduled in appendix 5-A, is described below:

(1) Asbestos Awareness. All NPS personnel shall have a basic understanding as to how Asbestos Containing Building Materials (ACBM) are labeled, potential health effects associated with exposures to asbestos, how to report suspected problems with asbestos, and where asbestos may be found in the workplace. Asbestos Awareness training shall be provided to the general NPS population as part of the electronic monthly safety training topic delivered in February

(2) Class IV Asbestos Work. Annual refresher training shall be provided to all personnel engaged in maintenance and custodial activities during which employees contact but do not disturb Asbestos Containing Materials (ACM). Such training shall be provided by eSAMS per appendix 5-A.

(3) Class I,II,III Asbestos Work. Annual refresher training shall be provided to those NPS personnel that are routinely engaged in the removal, maintenance, and repair of all ACM (pipe insulation, sprayed-on acoustical, floor tile sheetrock, roofing, etc...). Such training shall be provided by NAVFAC Monterey Public Works (PW) per appendix 5-A

o. Respiratory Protection Training. This training is required for all employees that use respirators, their supervisors, persons issuing respirators, and emergency response teams to ensure proper respiratory use. Training is required annually, and conducted at the time of respirator fit testing by the Respiratory Protection Manager or the individual's workspace supervisor or PI. Dust mask usage also requires training and coordination with the Respiratory Protection Manager.

p. Confined Space Entry Training. Confined Space Qualified Persons are trained and certified by the NAVFAC Monterey Confined Space Entry Program Manager. Eight hours of initial classroom training, followed by 8 hours of on-the-job training and annual refresher training is required for all Confined Space Qualified Persons. Annual training is also provided to all confined space entrants, attendants, and entry supervisors. Confined Space Entry training is provided per appendix 5-A.

q. Fall Protection Training. This training is required for

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those individuals that work at heights in excess of 6 ft. above the ground. Thorough employee training in the selection and use of personal fall arrest systems is imperative. Careless or improper use of the equipment can result in serious injury or death. Those employees requiring such training shall complete Fall Protection training available on eSAMS per appendix 5-A. Should job specific training be required, the Fall Protection Program manager shall provide the training.

r. Fire Prevention/Protection Training. The Fire Prevention Bureau shall provide a Fire Education Program to all NPS personnel via eSAMS. The training shall consist of topics such as eliminating fire hazards, reporting fires and other emergencies, proper fire escape planning, smoke and carbon monoxide detectors, fire suppression systems and the content of reference 5-2. Additionally, all NPS personnel shall review the fire prevention and portable fire extinguisher training module provided via eSAMS per appendix 5-A.

s. Chemical Hygiene Training. Employees and students engaged in the laboratory use of hazardous chemicals shall be trained before initial work, and annually in the details of the NPS Chemical Hygiene Plan, physical and health hazards of chemicals in the work area, methods and observations for chemical release detection and control measures. Affected employees shall periodically review Safety Data Sheets (SDSs) to understand the characteristics and physical/health hazards of chemicals in the work area. Additionally, all affected employees shall complete Chemical Hygiene/HAZCOM training that is available via eSAMS per appendix 5-A.

t. Traffic Safety Training. Traffic Safety training is a prominent part of the Navy's campaign to reduce the leading cause of accidental death. Local traffic safety orientation briefings are required IAW reference 7-3 for all personnel reporting for duty at NPS from outside the Monterey Peninsula as soon as possible after they report. Traffic Safety briefings shall include base traffic patterns, local community driving hazards and situations, special weather driving conditions, state and local vehicle and driving laws, vehicle registration, personal protective clothing requirements, safety belt and child safety seat laws, and alcohol and drug abuse driving counter measures. New employees (civilian, military staff, and faculty) shall receive Traffic Safety training from the NPS Police Department during New Employee Safety Training. New Students shall receive Traffic Safety briefings during the new student orientation conducted each quarter.

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u. Motorcycle Safety Training. Motorcycle Safety Training is provided by NSAM. Refer to current NSAM/Navy motorcycle training requirements for further guidance.

Chapter 5
References

- 5-1. OPNAVINST 5100.23 (series); Navy Occupational Safety and Health (NAVOSH) Program Manual, Chapter 6 (Training)
- 5-2. OPNAVINST 11320.23 (series) Navy Fire and Emergency Services Program Manual
- 5-3. OPNAVINST 5100.12 (series) Navy Traffic Safety Program Manual

Appendix 5-A

**NAVAL POSTGRADUATE SCHOOL
OCCUPATIONAL SAFETY TRAINING SCHEDULE**

Training Topic (eSAMS Course No.)	Frequency	Target Audience & Location
Top Management OSH Training	Quarterly – As Req'd	Executive Council; Departmental Safety Report
Safety Orientation for Supervisors (1077) or (1395)	On Demand	Supervisors (Military & Civilian) of all departments;
New Employee NAVOSH Orientation (1356)	On Demand	New NPS employees;
Ergonomics & Back Injury Prevention Training (40 & 372)	On Demand	All PW & MWR personnel;
Hearing Conservation (110)	On Demand	Personnel Enrolled in the Hearing Medical Surveillance Program;
Sight Conservation (111)	On Demand	Personnel Enrolled in the Sight Conservation Medical Surveillance Program;
General Industry Lead (Pb) Training (322)	On Demand	As req'd;
Class IV Asbestos Work (14)	On Demand	As req'd;
Class I, II, III Asbestos Work	March	As req'd; PW Complex
Confined Space Entry	May	Confined Space Qualified Persons @ the PW Complex
Man Made Vitreous Fibers	Semi-Annually - TBD	Personnel that may be occupationally exposed to fiberglass, synthetic glass, mineral wools, and ceramics; NPS Safety Office
Chemical Hygiene/HAZCOM (1058) or (1169)	On Demand	Personnel associated with potentially toxic chemicals;
Reproductive Hazards(1242)	On Demand	Supervisors and any lab or shop personnel;
Blood Borne Pathogens (98)	On Demand	Any NPS personnel that may be exposed to BBP;

Adult CPR	TBD	MWR personnel, individuals engaged in electrical and/or electronics work, and supervisors of such personnel shall receive classroom training. All other NPS personnel are highly encouraged to attend
Basic First Aid	TBD	MWR personnel, individuals engaged in electrical and/or electronics work, and supervisors of such personnel shall receive classroom training. All other NPS personnel are highly encouraged to attend.
Radio Frequency Radiation Training	On Demand	Personnel who routinely work directly with RFR equipment; NPS RFRSO
Laser Safety Training	On Demand	All Class I, II, or IIIA Laser operators, or personnel potentially exposed to Laser radiation; NPS LSO

Appendix 5-B

Safety Training Courses Offered Via eSAMS (as of 15 Aug 2013):

**Note: For complete course descriptions, logon to **

1. Annual Fire Warden Refresher Training (2991)
2. Annual Security Awareness (CNRNW)(2143)
3. Anthrax Exposure and Awareness (1071)
4. Asbestos Awareness – OSHA Class IV Asbestos Training (14)
5. Assistant-Leading Risk Management Integration (3456)
6. Back Injury Prevention Training (40)
7. Basic HAZCOM Training (1169)
8. Blood Borne Pathogen Training (98)
9. CBRNE Respirator User Training (1243)
10. Driving for Life (1154)
11. Drug Free Workplace Training for Supervisors (2035)
12. Electrostatic Discharge (ESD) Safety Training (1030)
13. Ergonomics Awareness Training for Supervisors (372)
14. Training – Motorcycle Coordinators (3179)
15. Training for General Users (3866)
16. Training for Supervisors (215)
17. Fall Protection Program Manager Training (Part 1) (4437)
18. Fall Protection Program Manager Training (Part 2) and Refresher Training for the Competent Person for Fall Protection (4438)
19. Federal Employees Antidiscrimination and Retaliation Act of 2002 (No FEAR Act) (2019)
20. Fire Prevention and Portable Fire Extinguisher Training and Education (1024)
21. General Ergonomics Awareness (371)
22. HAZCOM Training for Supervisors (Initial and Annual Refresher) (1058)
23. Hearing Conservation (110)
24. Individual-Managing Your Risk (ORM) (3454)
25. Job Hazard Analysis Training (326)
26. Lead Awareness – Non-Lead Workers (Possible Contact) (322)
27. Lockout/Tagout For Authorized Employees (CNRSW) (1603)
28. Low Speed Vehicle Training (2302)
29. Manager-Directing You Commands Risk Management (3457)
30. NAVOSH Orientation (1356)
31. Navy Fall Protection (Slips, Trips, and Falls) Awareness (1259)
32. Navy Fall Protection Awareness Training for End Users Working at Heights and Supervisors

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of End Users (2018)

33. Occupational Reproductive Hazard Awareness (1242)
34. Occupational Reproductive Hazard Awareness (Initial and Refresher) (4376)
35. Office Ergonomics (3030)
36. Powered Industrial Trucks (Forklift) Formal Instruction 29 CFR 1910 178 (I)(2)(ii) (1109)
37. PPE Training (1398)
38. Process Review and Measurement System (PRMS) (1397)
39. Recreational and Off-Duty Safety Training Awareness and ORM (1263)
40. Respirator Protection Manager Training (Assistant or RPPA) (1020)
41. Safety Orientation for Non-Supervisors (1093)
42. Safety Orientation for Supervisors (Web or Classroom) (1077)
43. Sight Conservation Training (111)
44. Supervisor Annual Training – Industrial (CNRSW) (1396)
45. Supervisor Training – Non-Industrial (CNRSW) (1395)
46. Supervisor-Managing Your Teams Risk (3455)
47. West Nile Virus Awareness Training (1234)
48. WRAIR/NMRC IA CUC Animal Care and Use Program (2990)

CHAPTER 6
HAZARDOUS MATERIAL CONTROL AND MANAGEMENT (HMC&M)

0601. Discussion

Responsibilities for NPS Hazardous Material Control and Management (HMC&M) are addressed in references 6-1 through 6-5.. HMC&M establishes uniform policy for the life-cycle control of hazardous material (HM) acquired and used by the Navy. HMC&M focuses on the sources of hazardous waste (HW), controlling & managing those HM operations/processes to reduce risks and costs associated with HW disposal, while increasing NPS operational support by reducing hazards to life, property and the environment.

NOTE:

NPS HAZMAT program requirements, procedures and standards are contained in NPGSCOLINST 5090.1(Series) NPSINST 5100.6 (series), NPS Lithium Battery Safety and Operating Procedures SOP v1.4 July 2014(series), and NSAM 5090.3 (series) Hazardous Waste Management Plan

Chapter 6
References

- 6-1. OPNAVINST 5100.23 (series) Navy Occupational Safety and Health (NAVOSH) Program Manual
- 6-2. NPGSCOLINST 5090 (Series)
- 6-3. NPSINST 5100.6 (series) Chemical Hygiene Plan
- 6-4. NPS Lithium Battery Safety and Operating Procedures SOP v1.4 July 2014 (series)
- 6-5. NSAM 5090.3 (series) Hazardous Waste Management Plan

CHAPTER 7
OCCUPATIONAL HEALTH

0701. Discussion

a. The primary objective of the Naval Postgraduate School (NPS) Occupational Health (OH) Program is to ensure a safe and healthful work environment for all NPS personnel. The safety part of the program focuses on the elimination or control of the type of hazards that can result in instantaneous (acute) traumatic injury or death. The occupational health (OH) 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 medical 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 teamwork of all NPS personnel, military and civilian, and the NPS Occupational, Safety, Health, and Environmental (OSHE) Directorate.

b. Two major specialties comprise the occupational health (OH) program: industrial hygiene (IH) and occupational and environmental medicine (OEM). Each of these specialties has, as one of its major functional components, a long-term surveillance program. Industrial hygiene involves the anticipation, identification, evaluation, and control of occupational health hazards. OEM focuses on the medical surveillance of employees potentially exposed to the hazards identified during the industrial hygiene workplace evaluation, the physical requirements of the job, and on the prevention, diagnosis and treatment of occupational injuries and illnesses. These two specialties working together form the basis for an active Occupational and Environmental Health (OEH) program. Their integration within NPS provides a valuable tool in preventing, identifying and treating occupational injuries and illnesses.

c. This chapter applies to all occupational health efforts at NPS, to include the main campus as well as all NPS remote locations.

d. Priorities for OH support are determined by exposure risk and the availability of the customer or patient. The NPS OSHE Directorate is the primary provider of OH support for NPS. In the case of medical support, military personnel are to seek support via the Navy Medical Administrative Unit (NMAU)

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Monterey, or treatment via the Army Health Clinic, US Army Presidio of Monterey, unless otherwise directed.

0702. Industrial Hygiene

a. Navy industrial hygiene personnel anticipate, recognize, evaluate, and make recommendations to control unacceptable workplace exposures. Exposure assessment of NPS workplaces requires a sound, logical strategy and shall be based on references 7-2 through 7-5. The purpose of such a strategy is to accomplish at least four goals:

(1) To assess potential health risks faced by NPS personnel by understanding their exposures, to differentiate between acceptable and unacceptable exposures, and to control unacceptable exposures;

(2) To establish and document a historical record of exposure levels for NPS personnel and to communicate exposure monitoring results;

(3) To ensure and demonstrate compliance with safety and health exposure criteria; and

(4) To provide a basis for medical surveillance examinations.

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

(1) Basic characterization;

(2) Exposure Assessment;

(a) Define similar exposure groups (SEG)

(b) Define exposure profiles for each SEG

(c) Judge acceptability of the exposure profile for each SEG

(d) Recommend control strategies

(3) Further information gathering;

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- (4) Communications and Documentation; and
- (5) Reassessment.

A BUMED Appointed Industrial Hygienist (IH) assigned to NPS (servicing IH) shall provide NPS with a current, thorough occupational exposure assessment of each work center per reference 7-2. The servicing IH shall routinely update the exposure assessment. The following subparagraphs outline the basic requirements for occupational exposure assessments.

c. Basic Characterization of the Workplace (Walk-through Survey). The first step in the exposure assessment strategy is to characterize the workplace, workforce and environmental agents. The servicing IH will 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 servicing IH will 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. Reproductive hazards and carcinogens shall be specifically identified.

NOTE:

The servicing IH shall have access to a copy of the authorized use list for the workplaces being surveyed.

- (3) A list of physical hazards (e.g., noise, ergonomic stressors, 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).

d. Exposure assessment. The servicing IH will assess exposures using all the information available. The outcomes include: groupings of workers having similar exposures,

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definition of an exposure profile for each similarly exposed group, and judgments about the acceptability of each exposure profile.

(1) Define Similar Exposure Groups (SEG). The servicing IH will group workers having the same general exposure profile by the similarity and frequency of the tasks they perform, the materials and processes with which they work, and the similarity of the way they perform the tasks.

(2) Define Exposure Profiles for each SEG. The servicing IH will use all quantitative and qualitative data to determine the degree of personnel exposure, i.e., estimate the exposure intensity and how it varies over time for each SEG. Estimates of the actual exposure levels for the SEG will be made whenever feasible. Exposure monitoring is the primary means of determining exposure levels.

(3) Make Judgments on Acceptability of the Exposure Profile for each SEG. The servicing IH shall judge the SEG exposure profile as acceptable, uncertain, or unacceptable as defined in reference 7-3. The servicing IH shall determine and document the rationale for each judgment. The servicing IH shall evaluate and determine the adequacy of existing controls.

(4) Make Control Strategy Recommendations. The servicing IH will make appropriate recommendations to the NPS President regarding the workplace, workforce, and environmental agents based on the results of the exposure assessments by using accepted industrial hygiene practices, which comply with appropriate regulatory requirements.

e. Further Information Gathering. Exposure profiles that are not well understood, or for which acceptability judgments cannot be made with high confidence must be further characterized by collecting additional information. Onboard NPS, specialized research topics may fall into this area, and should be thoroughly analyzed prior to their execution. Information needs may be quantitative or qualitative depending on the exposure profile and servicing IH's judgment.

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

- (a) Personnel exposures;
- (b) The need to control exposures; and
- (c) The effectiveness of measures directed at reducing or eliminating health hazards.

The servicing 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.

f. Qualitative Exposure Decisions. Examples may include exposure modeling, biological monitoring or determining an appropriate occupational exposure level. The servicing IH shall determine the appropriate information needed, gather it, and evaluate it so that an acceptable or unacceptable exposure assessment is reached and appropriate controls and recommendations can be implemented on campus.

g. Communications and Documentation. Exposure assessment reports and records are critical elements of the exposure assessment process. Reports and records are needed to ensure effective communication of workplace findings and successful continuity of the industrial hygiene program.

(1) The servicing IH will provide an exposure assessment report, as outlined in reference 7-3, to the NPS President, providing copies to the NPS Safety Director, School Dean, Department Chair, and the surveyed work center.

(a) The servicing IH will conduct both an in-brief and an out brief with the Department Chair for the workspace being surveyed. These briefings will manage exposure assessment expectations, more importantly though, they enable fluid communications between NPS leadership and the servicing IH.

(2) The NPS OSHE Directorate shall maintain documentation on:

- (a) Workplace basic characterization;
- (b) Exposure profiles;

- (c) Exposure assessment judgments and findings;
- (d) Health hazard controls;
- (e) Recommendations; and
- (f) Reassessment frequency.

(3) The servicing IH will prepare and implement an exposure-monitoring plan to:

- (a) Fulfill regulatory sampling requirements;
- (b) Collect sufficient data to allow statistically valid exposure assessments;
- (c) Track workplace exposures to determine trends,
and
- (d) Validate professional judgments of unchanged exposure assessments.

The servicing IH will design this plan to obtain samples representative of actual exposures and to analyze the data collected to minimize any bias involved in the process. They shall base the plan on a sampling strategy, such as the one outlined in reference 7-4. Standards shall specify the frequency of monitoring. Where such standards do not exist, the servicing IH shall use professional judgment to determine the frequency of monitoring. When the servicing IH performs any exposure monitoring, they may incorporate the exposure-monitoring plan in the industrial hygiene report. If they take this course, they shall include the following information:

1. What must be sampled;
2. How many samples are needed; and
3. How often the sampling should be performed.

If the servicing IH does not include the exposure-monitoring plan in the industrial hygiene survey report, they may use OPNAV 5100/14 or a computer-generated facsimile (i.e., containing data fields of OPNAV 5100/14) for developing the exposure-monitoring plan, per reference 7-3.

NOTE:

IHs shall conduct all exposure monitoring per reference 7-3.

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

h. Reassessment. The servicing IH will, at a minimum, conduct a periodic reassessment per appendix 7-A guidance, and provide a report to the NPS President, with copies provided to the NPS OSHE Director, School Dean, and Department Chair for each serviced work center.

Regardless of any workspace's category, the servicing IH may specify more frequent evaluations for specific workspaces or processes depending upon the industrial hygiene exposure assessment. For example, isolated high hazard spaces within an otherwise administrative Category III activity will require reevaluation more frequently than every 4 years. Regardless of their activity's category, the NPS OSHE Directorate can evaluate all administrative workplaces and tasks at the Category III periodicity. For operations governed by references 7-6 through 7-7, NPS personnel 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 servicing IH is notified of any such changes.

0703. Retention and Access to Sampling Records (Disposition)

a. The Servicing IH will forward individual exposure monitoring information to the Navy Medical Administrative Unit (NMAU) Monterey for review and placement into the individual's medical record. (Paragraph 0707 discusses medical records.)

b. BUMED shall retain survey, evaluation, and sampling records (paragraph 0702) for a minimum of 40 years (except where specific applicable standards require retention for a longer time).

c. Whenever an employee or designated representative requests access to a record, NMAU shall assure that access is provided in a reasonable time, place, and manner as required by reference 7-9.

0704. Occupational Exposure Registry and Data Bank

The Navy requires standardization of industrial hygiene data (e.g., Defense Occupational and Environmental Health System (DOEHRS) and Industrial Hygiene Information Management System (IHIMS)). 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 7-3 or computerized equivalent (i.e., at a minimum containing the same data fields). Sample forms may be obtained by writing to Commanding Officer, Navy and Marine Corps Public Health Center, (NMCPHC), 620 John Paul Jones Circle, Ste. 1100, Portsmouth, VA 23707-2103 or via the internet at:
http://www.nmcphc.med.navy.mil/occupational_health/industrial_hygiene/ih_fieldops_manual.aspx.

b. Any samples submitted to laboratories other than the Consolidated Industrial Hygiene Laboratories (due to special projects or contracted services) shall submit a copy of analytical results to NMCPHC.

0705. OEM Program

a. OEM is a critical part of the multidisciplinary approach to the prevention of work-related injuries and illnesses and in the promotion of healthy work practices throughout the NPS workforce. A comprehensive OEM program includes but is not limited to:

(1) Treatment and referral (if indicated) of work-related injuries and illnesses;

(2) Medical surveillance program management including:

(a) Validation of personnel identified for medical surveillance programs based on industrial hygiene data;

(b) Medical surveillance examinations per reference 7-10 (use form referenced in paragraph 0705(c));

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

(4) Job certification examinations per reference 7-10 (use form referenced in paragraph 0705(c));

(5) Worksite consultations and inspections;

(6) Epidemiological assessments of available injury and illness data to assist with prevention efforts and reduction of lost work time;

(7) Occupational injury and illness case management to restore workers to optimal health and productivity;

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

(9) Appropriate immunizations to prevent disease due to occupational exposure; and

(10) Support for work area health promotion programs.

b. For more details of program requirements see reference 7-11, "Occupational Medicine Field Operations Manual," Navy Environmental Health Center publication NEHC6260 TM96-2 at http://www.nmcphc.med.navy.mil/downloads/occmcd/OccMedFieldOpsManual_Aug2006.pdf.

c. The servicing IH will identify workspaces where personnel operating will require medical surveillance. The NPS OSHE Directorate shall maintain an accurate database of all personnel operating under NPS authority that require medical surveillance. Individual workspace PI's shall inform personnel operating under their supervision whenever they require enrollment in a medical surveillance program.

(1) Supervisors and PI's shall utilize the Medical Surveillance and Certification Examination Referral and Disposition Form (MSCERD) when notifying any personnel of a requirement to enroll in a medical surveillance program. Additionally, PI's shall email a list of any new personnel enrollment referrals to the NPS OSHE Directorate Medical Surveillance program manager. Once notified, NPS personnel are required to schedule and attend the requisite medical screenings at the US Army Health Clinic, US Army Presidio of Monterey. Upon completion of any requisite screenings, initial or follow up, NPS personnel shall bring their updated MSCERD form to the NPS OSHE Directorate Office (BLDG 285) for entry into the medical surveillance database.

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(2) The Medical Surveillance and Certification Examination Referral and Disposition Form can be found on the NPS Safety Intranet site: <https://intranet.nps.edu/safety2008/index.html> or at the Naval Safety Center's Medical Surveillance Toolbox webpage at: <http://www.public.navy.mil/navsafecen/pages/osh/medsurv.aspx>

0706. Consultative Assistance Teams

To facilitate OEH support, consultative assistance teams (CATs) from NMCPHC industrial hygiene and OEM departments are available to provide timely, high quality, technical and professional assistance to field activities. CATs are available for all aspects of OH programs (e.g., industrial hygiene, OEM/nursing, audiology, Indoor Air Quality Inspections/Investigations). For additional details on CAT services provided or how to request a CAT, refer to OPNAVINST 5100.23H Chapter 7.

0707. Medical Records

Maintenance, retention, and disposition of personnel medical records shall be performed in accordance with references 7-6 and 7-12. NPS personnel medical records are kept and maintained at the Army Health Clinic, US Army Presidio of Monterey, with administrative oversight by the Navy Medical Administrative Unit Monterey.

0708. Responsibilities

a. The servicing IH will provide OH support to all NPS activities to include the following requirements:

(1) A comprehensive industrial hygiene exposure assessment program as defined in paragraph 0702 including:

(a) Initial and periodic exposure assessments of the conditions within each NPS workspace;

(b) Technical direction of exposure monitoring programs, including training, procedures, sampling and analytical methods, sample analysis and analysis/interpretation;

(c) The industrial hygiene techniques and exposure-monitoring course;

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(2) Notification to employee and employee's supervisor via ESAMS, email, or in writing when medical surveillance is required for personnel operating in a particular space.

(3) A comprehensive occupational medical program as defined in paragraph 0706;

b. The NPS OSHE Directorate shall:

(1) Establish, in coordination with each Department/School, appropriate records relating to all OH aspects of the department or school's safety program;

(a) Track NPS personnel identified by the servicing IH or their workspace PI as requiring medical surveillance.

(b) NPS OSHE Directorate shall monitor medical surveillance compliance and report results to the NPS President and School Deans.

(2) Participation in Workers' Compensation Working Group as requested; and

(3) Other consultative occupational health support (e.g., anticipate and prevent hazards through design reviews), as requested by the activity commanding officer to meet the requirements of this instruction.

Enclosure (1)

Chapter 7 References

7-1. OPNAVINST 5100.19E, ; Navy Safety and Occupational Health (SOH) Program Manual for Forces Afloat of May 2007
<http://doni.daps.dla.mil/OPNAV.aspx?RootFolder=%2fDirectives%2f05000%20General%20Management%20Security%20and%20Safety%20Services%2f05%2d100%20Safety%20and%20Occupational%20Health%20Services&SortField=LinkFilenameNoMenu&SortDir=Asc&View=%7bDEF0EB11%2d3775%2d4F67%2dB5A1%2dAE9F7EB752BC%7d>.

7-2. DoD Instruction 6055.05, Occupational and Environmental Health (OEH) of 11 Nov 2007
<http://www.dtic.mil/whs/directives/corres/pdf/605505p.pdf>.

7-3. Industrial Hygiene Field Operations Manual NMCPHC-TM6290.91-2 of May 2007
http://www.nmcphc.med.navy.mil/occupational_health/industrial_hygiene/ih_fieldops_manual.aspx.

7-4. AIHA, A Strategy for Assessing and Managing Occupational Exposures, 3rd Edition, 2006
https://webportal.aiha.org/Purchase/ProductDetail.aspx?Product_code=96e7072a-4777-de11-96b0-0050567361fd

7-5. "DOD IH Exposure Assessment Model of January 00," DOD Industrial Hygiene Working Group Report 2000-1
<https://www.denix.osd.mil/denix/Public/News/Army/DOHP/Occhealth/Documents/IHEAM/ihasessmodelv7.html>.

7-6. Title 29 CFR 1910, Occupational Safety and Health Standards
http://www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_toc_level=1&p_part_number=1910.

7-7. Title 29 CFR 1915, Occupational Safety and Health Standards for Shipyard Employment
http://www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_toc_level=1&p_part_number=1915.

7-8. Title 29 CFR 1926, Safety and Health Standards for Construction
http://www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_toc_level=1&p_part_number=1926.

7-9. 29 CFR 1910, Occupational Safety and Health Standards Subpart Z - Toxic and Hazardous Substances, (29 CFR 1910.1000)

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=9991&p_table=STANDARDS.

7-10. NMCPHC Technical Manual OM 6260 , Medical Surveillance Procedures Manual and Medical Matrix of Mar 2010
<http://www.nmcphc.med.navy.mil/downloads/occmcd/MedicalMatrix10.pdf>.

7-11. NMCPHC Technical Manual NEHC-TM-OEM 6260.96, Occupational and Environmental Medicine Field Operations Manual of Aug 2006
http://www.nmcphc.med.navy.mil/downloads/occmcd/OccMedFieldOpsManual_Aug2006.pdf.

7-12. NAVMED P-117, Manual of the Medical Department (MANMED)
<http://www.med.navy.mil/directives/Pages/NAVMEDP-MANMED.aspx>.

7-13. OPNAVINST 5100.23 (series); Navy Occupational Safety and Health (NAVOSH) Program Manual, Chapter 8 (Occupational Health)

Appendix 7-A

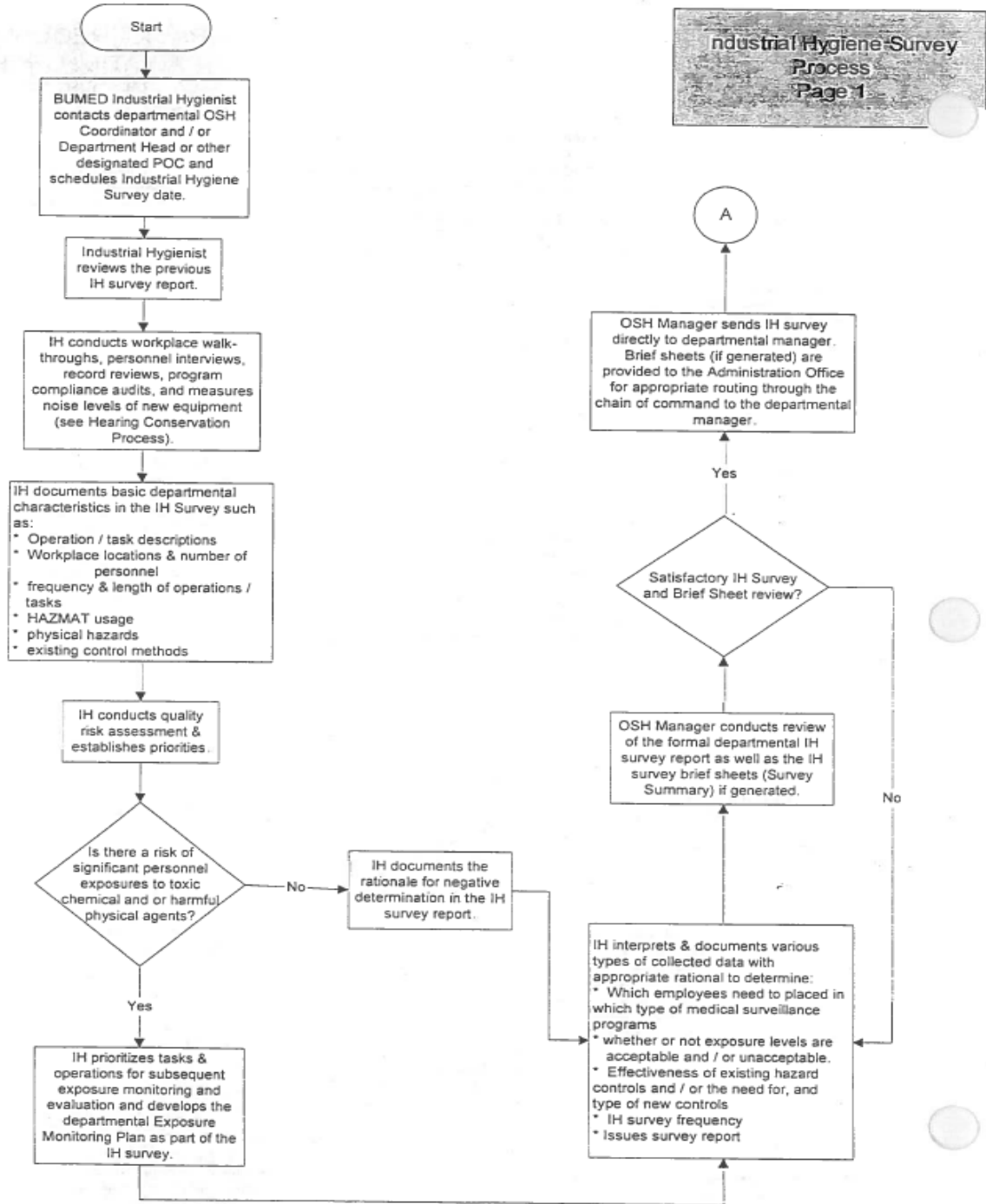
Periodic Industrial Hygiene Reassessment Frequency
Categories

ACTIVITY CATEGORY	REQUIRED INDUSTRIAL HYGIENE EXPOSURE ASSESSMENT FREQUENCY	ACTIVITY EXAMPLES
I High Hazard	Annual	Naval Shipyard, Ship Repair Facility, Naval Aviation Depot, Shore Intermediate Maintenance Activity, Aircraft Intermediate Maintenance Department, Public Works Center, Weapons Ordnance Station, Naval Intermediate Maintenance Facility, Test Center or Laboratory, Medical and Dental Activities, Assault Craft Unit, Beach Masters Unit, Amphibious Construction Battalion, Naval Undersea Warfare Center, Naval Surface Warfare Center (NSWC)
II Moderate Hazard	Every 2 years	Naval Stations, Air Stations, Naval Computer and Telecommunications Area Master Station, Fleet and Industrial Supply Center, Sea Air Land Commando Teams, Aviation Squadrons, Submarine Learning Facility, Fleet Imaging, Naval Facilities Engineering Command Engineering Field Division, Naval Criminal Investigative Service, Naval Base, Exchange, Explosive Ordnance Disposal, Naval Computer and Telecommunication Station, Naval Communication Unit, Fleet Training Center, Fleet Aviation Specialized Operational, Naval Education and Training Command/, Fleet Area Control and Surveillance Facility, Naval Ophthalmic Support & Training Activity, NSWC Detachment and all Navy and Military Sealift Command PM1 Ships and Submarines
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 facilities and/or work processes have not changed since the last evaluation, the reevaluation does not require a site visit.

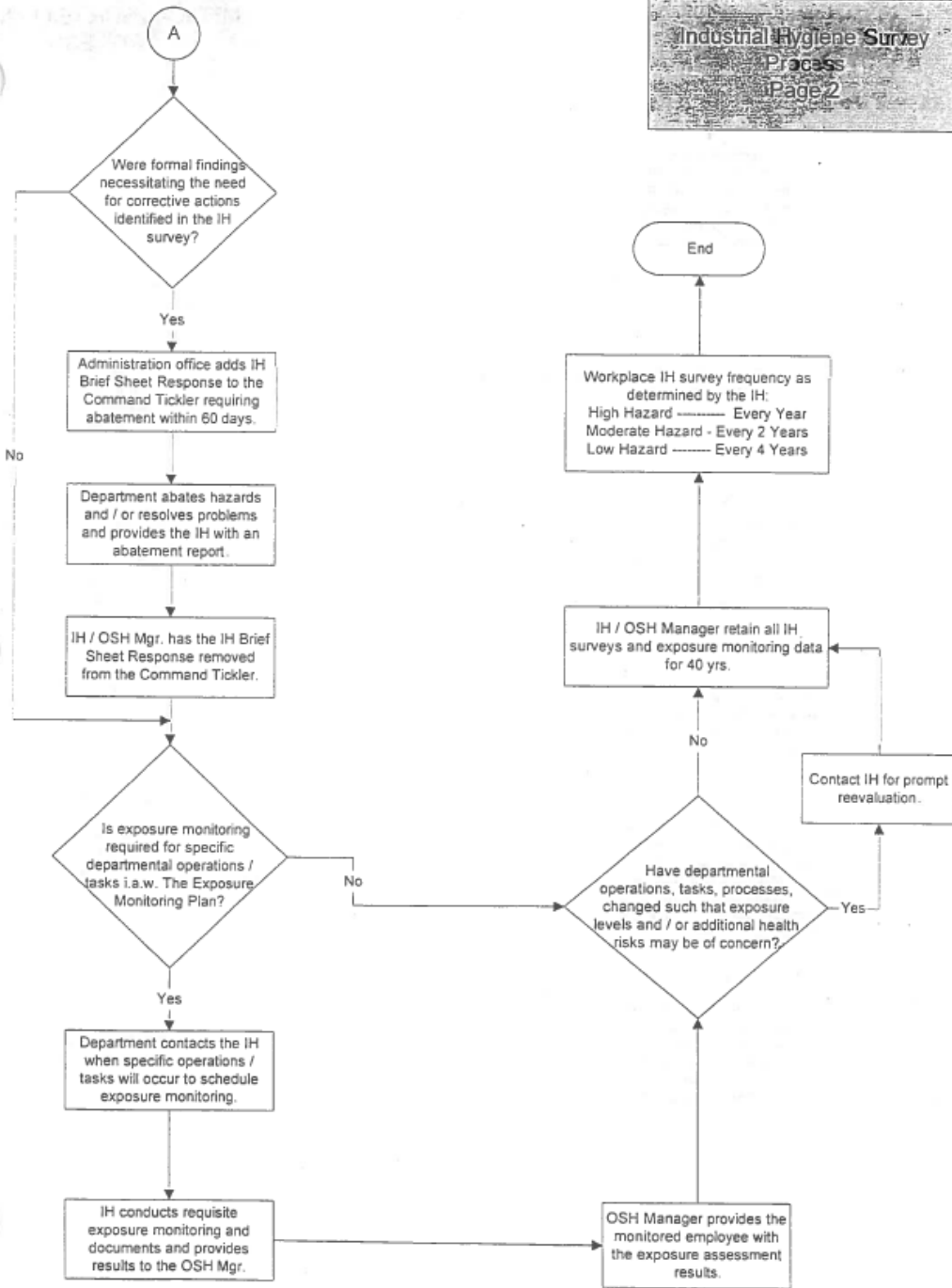
Appendix 7-B

NPS Industrial Hygiene Process Flow Chart



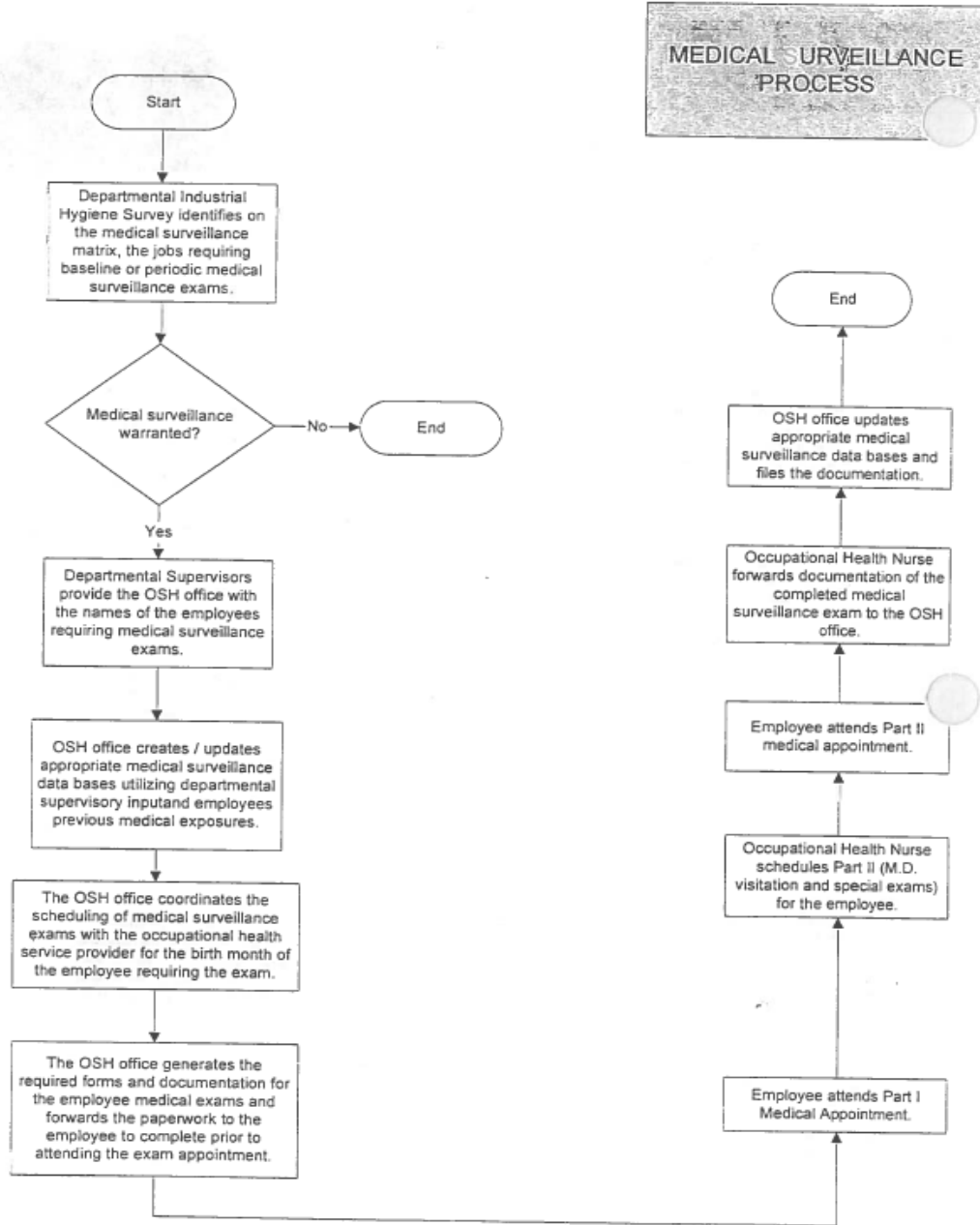
Industrial Hygiene Survey Process
Page 1

Industrial Hygiene Survey
Process
Page 2



Appendix 7-C

NPS Medical Surveillance Process Flow Chart



CHAPTER 8
INSPECTIONS AND ASSESSMENTS

0801. Discussion

The Naval Postgraduate School (NPS) Occupational Safety and Health (OSH) Inspection Program is necessary to ensure safe and healthful workplaces for all NPS personnel, civilian and military. The inspection program identifies deficiencies that need correcting in order to protect personnel and meet regulatory requirements. At NPS, the inspection program consists of two levels of inspection, each fulfilling different objectives.

a. Workplace Inspections. The NSAM OSH program office shall inspect for hazardous conditions, unsafe work practices, and violations of standards. NSAM in coordination with the NPS OSHE Directorate shall follow up on accident reports and abatement actions.

b. Self-Assessments. The NPS OSHE Directorate shall perform a self-assessment of the command's OSHE program at least annually via the ESAMS safety self-assessment system.

c. Oversight Evaluations

(1) Naval Inspector General (NAVINGEN). The NAVINGEN shall conduct oversight inspections of NPS to evaluate compliance with requirements of the program.

0802. Qualifications for Inspectors

a. A successful inspection program requires trained, qualified, and competent inspectors. NPS Inspectors shall thoroughly familiarize themselves with the equipment and work practices at the workplace. The term "safety and health inspector" means a safety and or occupational health professional who has met the Office of Personnel Management (or military equivalent) standards, and who has the equipment and competence to recognize safety and or health hazards in the work place. NPS shall base qualifications for inspectors on the degree of hazard and complexity of the inspection areas or operations.

b. As a minimum, a competent NPS OSHE inspector shall have successfully completed relevant core courses available through

the Naval Safety and Environmental Training Center (NAVSAFENVTRACEN) or equivalent as determined by the NPS OSHE Director. For additional information, refer to OPNAVINST 5100.23G paragraph 0602.

NOTE:

The NPS OSHE Directorate shall include in individual NPS OSHE Directorate personnel's development plans provisions for completing the core courses listed in OPNAVINST 5100.23G paragraph 0602d.

c. Certain high risk operations (i.e., risk assessment codes (RAC) 1 and 2, as described in paragraph 1202), including, but not limited to, confined space entry, fall protection programs, energy control (lock-out and tag-out), etc., require training qualifications beyond the core courses identified in OPNAVINST 5100.23G paragraph 0602d. Supplemental training is required for OSH inspectors and collateral duty safety personnel involved in oversight and management of high-risk operations. Most supplementary training for NPS inspectors shall be accomplished via ESAMS to the maximum extent possible. However, should additional training be required, training may be obtained via NSAM sources or through the NAVSAFENVTRACEN, e.g., Confined Space Safety, A-483-0030; Fall Protection, A-483-0084. Additionally, training may be acquired through external sources, such as the Occupational Safety and Health Administration or American Society of Safety Engineers. These trained inspectors may train other inspectors in-house using a formal lesson plan approved by the NPS OSHE Director. Completion of any in-house training shall be documented and entered into the individuals ESAMS record.

0803. Workplace Inspections

The NPS OSHE Director, by direction of the NPS President, shall ensure routine workplace inspections are conducted ICW NSAM OSH personnel, and Navy Medical Administrative Unit Monterey provides occupational health support as necessary. Department Chairs, Supervisors, PI's, and lab managers, are responsible for day-to-day inspections and corrective actions.

a. NSAM OSH personnel will inspect all workplaces at least annually. They shall inspect high hazard areas more frequently based upon an assessment of the potential for injuries, occupational illnesses, or damage to Navy property.

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b. Paragraph 0802 outlines qualifications for inspectors. In the event NSAM or NPS does not have the required expertise, the NSAM OSH department will make arrangements to obtain assistance.

c. The NPS OSHE Directorate shall provide NSAM inspectors with appropriate technical test equipment, where required.

d. NSAM and NPS OSHE Inspectors shall conduct inspections in a manner to preclude unreasonable disruption of the operations of the workplace. The NPS OSHE Directorate will make every effort to provide notification prior to an inspection, however, NSAM and/or the NPS OSHE Directorate may conduct these inspections with or without prior notice.

e. NSAM or NPS OSHE Inspectors may deny the right of accompaniment to any person whose participation interferes with a fair and orderly inspection or who lacks the required security clearance.

f. Inspectors shall discuss matters affecting safety and health with employees or employee representatives and offer them the opportunity to identify unsafe or unhealthful working conditions while remaining anonymous.

g. If an NSAM or NPS OSHE inspector discovers an imminent danger situation during an inspection, he or she shall immediately notify supervisory personnel. The affected NPS leadership shall initiate immediate abatement action or terminate the operation.

h. NSAM OSH Inspectors shall provide deficiency notices for RAC 1, 2 and 3 deficiencies to the official in charge of the operation, space manager, and department chair within a reasonable time, but not later than 15 working days after the inspection. NSAM OSH Inspectors shall provide a written report of the inspection, including administrative findings, to the official in charge of the operation, space manager, and department chair within 45 days of completion of the inspection. For notification purposes, ESAMS shall be utilized, enabling seamless notification and record maintenance. NSAM OSH Inspectors can group multiple identical deficiencies in the same organization (jurisdiction of the same supervisor) or workspace into a single notice.

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i. Department Chairs, Supervisors, PI's, and Lab Managers shall correct violations of standards and other deficiencies found during inspection per chapter 12 of OPNAVIST 5100.23H.

j. The NPS OSHE Directorate ICW the NSAM OSH department shall conduct follow-up workplace inspections to verify that completed corrections have been made or that actions addressing specific problem areas were taken. When deficiency notices have been prepared, NSAM or NPS OSHE inspectors shall document follow-up inspections in ESAMS. The inspector shall develop, in coordination with the lab manager, PI, and/or department chair, procedures for correcting unsafe or unhealthful working conditions that include a follow-up, to the extent necessary, to determine whether the correction was made.

k. The NPS OSHE Directorate shall retain inspection records for a minimum of 5 years.

0804. Self Assessments and Improvement Plans

The NPS OSHE Directorate shall perform a self-assessment of the command's OSHE program at least annually using the ESAMS self-assessment functionality.

a. The NPS self-assessment shall include, as a minimum, incorporation of a review of progress toward implementing the Department of the Navy safety vision, mishap statistics, inspection records, hazard reports and risk assessments, evaluations of compliance posture, and the industrial hygiene exposure assessment reports outlined in chapter 7 of this manual. Further background information on self-assessments is available at:

http://www.public.navy.mil/navsafecen/Pages/osh/SOH_Metrics/SOH_Metrics.aspx.

b. The NPS OSHE Directorate shall develop specific improvement strategies for each area identified as needing improvement. For each strategy, the NPS OSHE Directorate shall define performance or measurement standards and establish target completion dates. The NPS safety council shall review the progress achieved in implementing improvement actions at least annually.

c. The self-assessment schedule and summary elements for NPS is as follows:

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(1) The NPS OSHE Directorate shall complete their annual self-assessments by 31 December of each calendar year using previous fiscal year data. The NPS OSHE Directorate shall formulate improvement plans as a part of the self-assessment process and shall take all necessary steps to correct hazards and deficiencies when discovered. Additionally, the NPS OSHE Directorate shall brief the annual assessment report to the NPS Safety Council focusing the brief on the following areas:

(a) Top five areas of concern (weaknesses) to include items such as difficult to solve problems, specific program areas most in need of improvements, manning or expertise deficiencies, lack of funding or training, etc.

(b) Successes (strengths) to include up to five program strengths such as success stories, sources of support up or down the chain of command, design changes for specific hazards, significant improvements achieved, etc.

(c) Opportunities for program improvement to include up to five items which will summarize improvement suggestions, beneficial ideas, roadblocks which NPS leadership could address, etc.

(2) The NPS OSHE Director, after briefing the NPS Safety Council, shall forward the annual safety assessment report to the NPS President for submission to the Navy Executive Safety Board (NESB) via the Executive Safety Committee (ESC) no later than 1 May of each calendar year. The annual self-assessment report will focus on the actionable information regarding NPS's consolidated top five areas of concern, successes, and opportunities for program improvement.

0805. Acquisition Program Assessment and Reviews

a. Acquisition programs are required to develop programmatic environmental safety and health evaluations (PESHEs) that are summarized in the acquisition strategy and evaluated by external program reviewers. System safety plans and hazard tracking are required by references 8-4 and 8-5.

b. Within acquisition programs, life cycle costs and risks, including those associated with hazardous material usage and physical safety, survivability, and physical agents, are required to be evaluated in integrated logistics assessments (ILAs), reference 8-6. ILAs are required before acquisition programs can progress to the subsequent major phase (milestone)

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and are considered in milestone reviews performed by major decision authorities (high-level external evaluators in the acquisition system). NPS OSHE professionals familiar with the acquisition system should become involved with ILAs and with direct program support through participation in integrated process teams (multidisciplinary committees), particularly those involved with system development and review.

0806. SMS Management Evaluations

ESAMS Safety Management System (SMS) reviews are a critical part of the continual improvement of the safety process. The purpose of reviews is for top NPS leadership, with the participation of NPS Deans, Department Chairs, and process owners, to do a strategic and critical evaluation of the ESMAS SMS, and to recommend improvements. This review is not just a presentation or a non-critical review of the system, but should focus on results and opportunities for continual improvement. These system reviews should occur at a minimum triennially.

0807. Oversight Program

a. A strong oversight program covering the total NPS OSHE program is central to its success. NPS self-assessments shall be used as the foundation for continuous improvement. NPS shall conduct triennial OSHE management evaluations to ensure OSHE program compliance. The NAVINSGEN is tasked to conduct a triennial evaluation of the NPS OSHE safety management program to validate its effectiveness per references 8-2 and 8-3.

b. NAVINSGEN will provide the Chief of Naval Operations Special Assistant for Safety Matters (OPNAV (N08F)) with an annual report that identifies safety program areas in need of improvement and recommended actions to enhance the overall Navy-wide safety program.

Chapter 8 References

8-1. DoD Instruction 6055.1, DoD Safety and Occupational Health (SOH) Program, of 18 Aug 88

<http://www.dtic.mil/whs/directives/corres/pdf/605501p.pdf>.

8-2. SECNAVINST 5040.3A, Inspections Within the Department of the Navy, of 13 Jul 2000

<http://doni.daps.dla.mil/Directives/05000%20General%20Management%20Security%20and%20Safety%20Services/05-00%20General%20Admin%20and%20Management%20Support/5040.3A.pdf>.

8-3. SECNAVINST 5430.57G, Mission and Functions of the Naval Inspector General, of 28 Dec 2005

<http://doni.daps.dla.mil/Directives/05000%20General%20Management%20Security%20and%20Safety%20Services/05-400%20Organization%20and%20Functional%20Support%20Services/5430.57G.pdf>

8-4. DoD Instruction 5000.02, Operation of the Defense Acquisition System, of 8 Dec 2008

<http://www.dtic.mil/whs/directives/corres/pdf/500002p.pdf>.

8-5. OPNAVINST 5100.24B, Navy System Safety Program Policy, of 6 Feb 2007

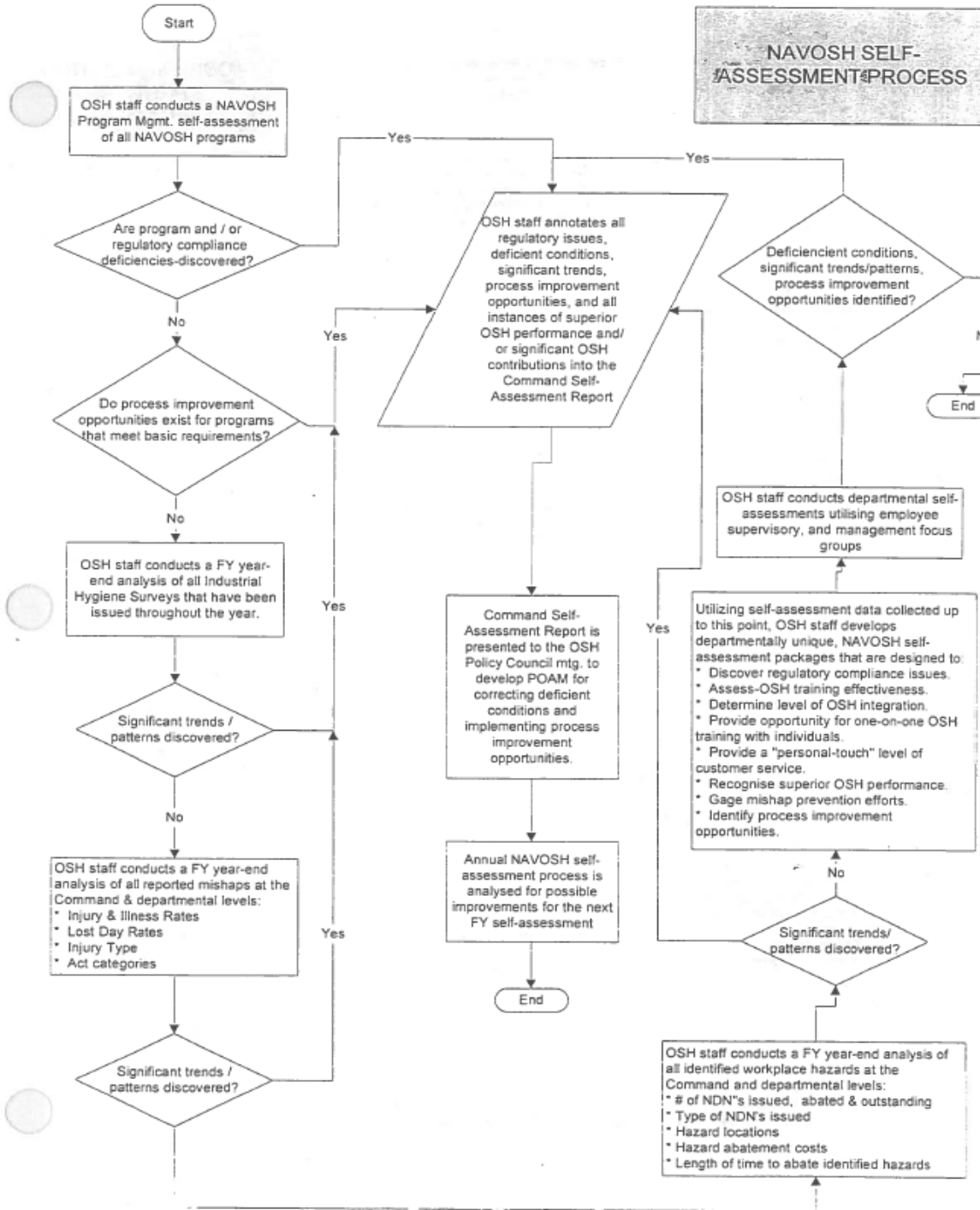
<http://doni.daps.dla.mil/OPNAV.aspx>.

8-6. SECNAVINST 4105.1B, Independent Logistics Assessment (ILA) and Certification Requirements, of 18 Dec 2008

<http://doni.daps.dla.mil/SECNAV.aspx>.

8-7. OPNAVINST 5100.23 (series); Navy Occupational Safety and Health (NAVOSH) Program Manual, Chapter 9 (SOH Inspection Program)

Appendix 8-A
NPS NAVOSH Self-Assessment Process



CHAPTER 9
EMPLOYEE REPORTS OF UNSAFE AND UNHEALTHFUL WORKING CONDITIONS

0901. Discussion

a. This chapter provides guidance on establishing a channel of communication between Naval Postgraduate School (NPS) civilian and military personnel and their respective supervisory personnel responsible for safety and health matters. This open line of communication is essential for the purpose of ensuring prompt response to, and analysis of, reports of alleged unsafe or unhealthful working conditions.

b. Identifying and reporting potentially unsafe or unhealthful working conditions is the responsibility of all NPS personnel, both military and civilian. Anyone onboard NPS has the right to decline a task because of a reasonable belief that there is an imminent risk of death and insufficient time for normal hazard reporting and abatement actions.

0902. Hazard Reporting

Detecting unsafe or unhealthful working conditions at the earliest possible time and making prompt corrections of these hazards at the lowest possible working level are essential elements of the NPS Occupational Safety, Health and Environmental (OSHE) program. NPS activities shall use the following procedures for submission of reports of unsafe or unhealthful conditions in the workplace per reference 9-1.

a. Immediately report unsafe or unhealthful working conditions. Since many safety and health problems can be eliminated as soon as they are identified, all NPS personnel are encouraged to orally report unsafe or unhealthful working conditions to their immediate supervisors who shall promptly investigate the situation and take appropriate corrective actions. NPS Supervisors shall contact the NPS OSHE Directorate office for assistance, as necessary. Supervisors shall inform the reporting employee/military member/student of all action taken on oral reports.

b. Submit a report of unsafe or unhealthful working condition. Anyone onboard NPS may submit a report of an unsafe or unhealthful working condition directly to the NPS OSHE Directorate office. The report forms are located on ESAMS, on any departmental Safety Board, the NPS Safety intranet site; <http://intranet.nps.edu/safety2008/index.html>, or the NPS OSHE

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Directorate Sharepoint site. This form includes a provision for an employee to indicate his or her desire to remain anonymous, should he or she wish. (All NPS reporting forms are in keeping with the standards set forth in reference 9-1)

NPS personnel may make an oral or email report to the NPS OSHE Directorate office instead of a written report. In these cases, the NPS OSHE Directorate office will transcribe the information into a written report or log.

c. Maintain records of all reports filed. The NPS OSHE Directorate office in coordination with the NSAM OSH program office shall maintain records of all hazard reports received. Records shall include: date, time, identifying reference number, location of condition, brief description of condition, hazard classification, and the date and nature of action taken. When necessary, the NPS OSHE Directorate office or the NSAM OSH program office will contact the individual making the report and or advise the cognizant supervisor that a hazard has been reported.

d. Promptly investigate all reports. The NSAM OSH program office is responsible for investigating all unsafe or unhealthful reports (alleged imminent danger situations within 24 hours, potentially serious situations within 3 days, and all other situations must be investigated within 9 working days).

e. Provide an interim response to the report originator. The NSAM OSH program office in coordination with the NPS OSHE Directorate office will provide an interim or complete response in writing to the originator of a written report within 9 working days of receipt. Interim responses shall include the expected date for the complete response. If the investigator validates the reported hazard, the complete response shall include a summary of the action taken for abatement. If no significant hazard is found to exist, the reply shall include the basis for the determination.

f. Encourage the originator to follow through if he or she is dissatisfied. The complete response shall encourage, but not require, the originator to informally contact the NPS OSHE Directorate office and/or the NSAM OSH program office if he or she desires additional information or is dissatisfied with the response. Complete responses shall indicate that formal appeals can be made and shall state or provide the reference for procedures for making appeals and appeals levels.

g. Handle grievances separately from hazard reporting. A hazard report is not a grievance. In the event that a hazard report also involves a grievance action, the NSAM OSH program office shall notify the complainant that the processing of the hazard report will be separate from the grievance response. In no case will a grievance action delay a NSAM OSH program office or NPS OSHE Directorate office response to a report of an unsafe or unhealthful working condition.

0903. Appeals

If the originator of a report is dissatisfied with the assessment made by the NSAM OSH program office of the alleged hazard or with action taken to abate a confirmed hazard, the NSAM OSH program office and the NPS OSHE Directorate office shall encourage the employee to discuss the matter further. If the originator remains dissatisfied after such discussion, he or she may appeal up the chain of command via a written appeal as outlined in OPNAVINST 5100.23G Chapter 10.

0904. Reports to the Occupational Safety and Health Administration (OSHA)

Paragraph 902 of this instruction provides a mechanism for all NPS personnel to report unsafe and unhealthful working conditions to the appropriate authority for in-house resolution. NPS civilian employees may, at any time, submit complaints alleging workplace hazards directly to the Department of Labor (DOL) Occupational Safety and Health Administration (OSHA). NPS civilian employees do not have to exhaust their chain of appeal before reporting a hazard to their cognizant Federal OSHA office; however, the Secretary of Labor encourages employees to use the Navy in-house hazard reporting procedures as they are usually the most expeditious means to achieve abatement. Reports to the DOL OSHA may serve as the basis for investigations or inspections by OSHA officials. See chapter 10 of this manual for guidance concerning such investigations or inspections.

0905. Responsibilities

The NPS OSHE Directorate shall:

a. Publicize (e.g., posting the employee report forms and instructions, training) the existence of the employee hazard reporting program and notify personnel regarding their rights and obligations in regard to reporting hazardous situations. Departmental Safety Coordinators are tasked to promote

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departmental awareness of all safety reporting avenues within NPS.

b. Maintain the anonymity of personnel making a report or named in a report if requested by the reporting or named employee.

c. Encourage the submission of oral reports to supervisors as the quickest and most effective method of hazard identification and correction.

d. Ensure that standardized hazard reporting forms and procedures are available to all personnel. All NPS Safety forms are available on ESAMS, the NPS safety intranet site; <http://intranet.nps.edu/safety2008/index.html>, the NPS OSHE Directorate sharepoint, or your departmental safety board.

e. Include safeguards to ensure that the command does not subject NPS employees to restraint, interference, coercion, discrimination, or reprisal by virtue of their participation in NPS's safety reporting program.

NOTE:

Personnel shall file allegations of reprisal for such participation under existing grievance procedures.

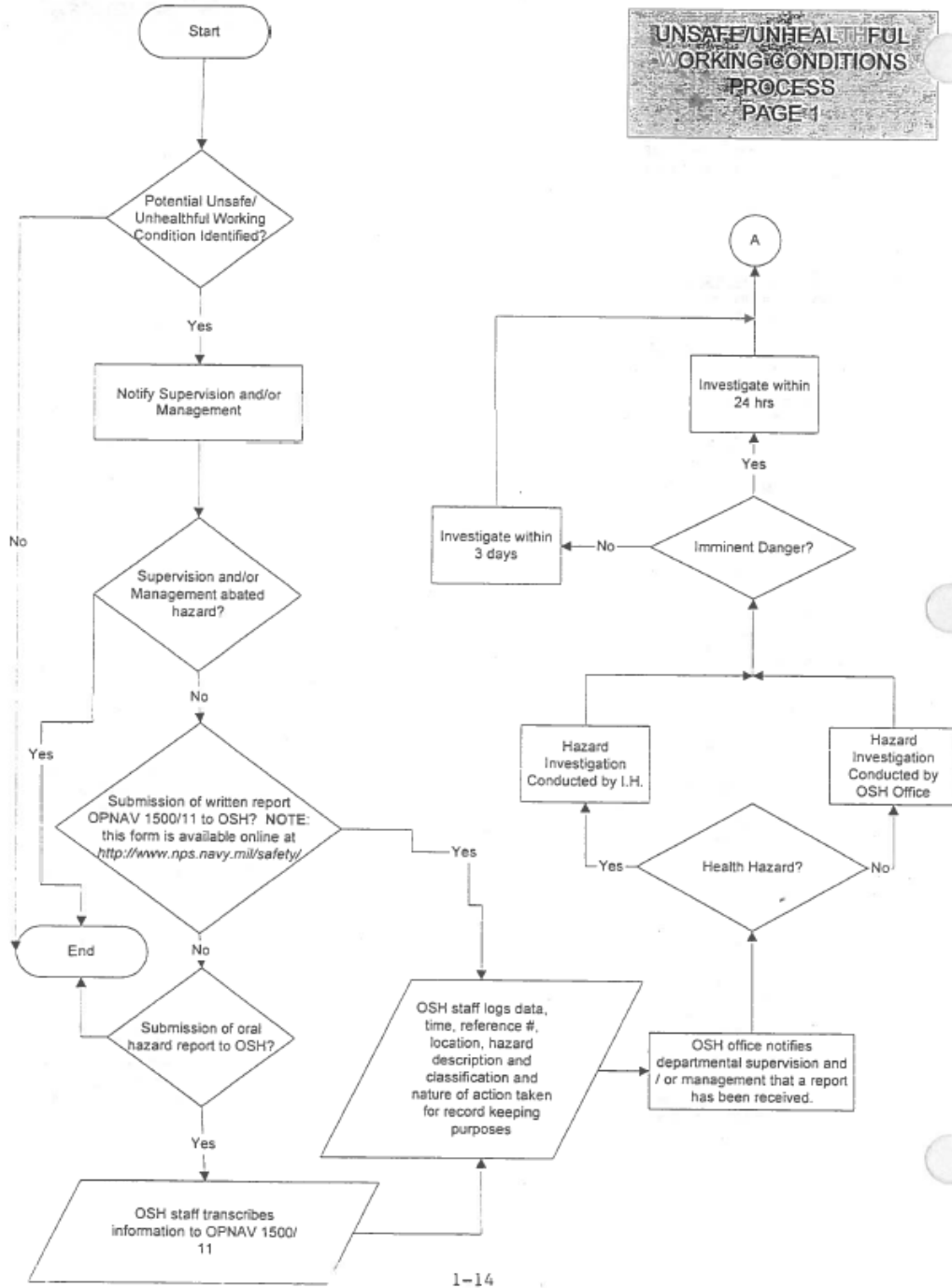
f. Maintain adequate recordkeeping practices and retain records for at least 5 years following the end of the calendar year in which final action on a report was undertaken.

Chapter 9
References

9-1. DODI 6055.1, DOD Safety and Occupational Health (SOH) Program, of 19 August 98,
<http://www.dtic.mil/whs/directives/corres/pdf/605501p.pdf>.

9-2. OPNAVINST 5100.23 (series); Navy Occupational Safety and Health (NAVOSH) Program Manual, Chapter 10 (Employee Reports of Unsafe/Unhealthful Working Conditions)

Appendix 9-A Unsafe/Unhealthy Working Conditions Reporting Flow Chart



UNSAFE/UNHEALTHFUL
WORKING CONDITIONS
PROCESS
PAGE 1

CHAPTER 10
INSPECTIONS AND INVESTIGATIONS OF NPS WORKPLACES
BY FEDERAL AND STATE OSH OFFICIALS

1001. Background and Discussion

a. Per reference 10-1, Naval Postgraduate School (NPS) doesn't hold exclusive federal jurisdiction over NPS workspaces and as such is subject to Department of Labor (DOL) inspections with few exceptions.

b. Naval Support Activities Monterey (NSAM) is the lead coordinating entity for all external communication with federal agencies relating to OSHE inspections. This includes all state and federal OSHA agencies.

c. In addition, with few exceptions, contractor operations at NPS are subject to DOL inspections.

d. Liaison between the contractor and the contracting agent will help ensure that all responsibilities and procedures for the inspections of contractor workplaces are clearly understood. Some contracts include the provisions of certain Defense Acquisition Regulations (DARs) (e.g., DAR 7-602.42 (NOTAL) for construction contracts) to ensure this liaison. Other contracts must provide a method for the liaison as well as requirements to protect NPS personnel from contractor operations on NPS installations.

e. The provisions that follow apply to the actions of Federal and state Occupational Safety and Health (OSH) officials while inspecting NPS workspaces. The inspection authority of Federal and state OSH officials is summarized in appendix 10-A.

1002. Federal and State Occupational Safety and Health Inspections at Contractor Workplaces on NPS Installations

a. Based on the provisions set forth in the OSHAct, NPS shall grant permission for Federal and state Occupational Safety and Health Administration (OSHA) officials, to enter any workspace without delay and at reasonable times to conduct inspections of contractor workplaces. These inspections may be routine or based on reports of unsafe or unhealthful conditions, specific complaints, accidents or illnesses of contractor employees, or NPS employees at contractor workplaces.

b. Federal and state safety and health officials shall present appropriate identifying credentials and shall state the purpose of the visit to the NSAM Commanding Officer or to the NSAM OSHA Coordinator before conducting an inspection of contractor workplaces situated on any NPS installations. The NSAM OSHA Coordinator shall make every effort to immediately notify the NPS OSHE Director of any OSHA inspections of NPS affiliated workspaces.

c. Under reference 10-1, only Federal OSHA officials may perform inspections in DoD contractor workplaces situated in areas where the United States holds exclusive Federal jurisdiction.

d. The Secretary of Labor has no authority over nuclear safety and health or explosive safety aspects of operations specifically covered by:

(1) Any state nuclear safety or health standard or regulation implementing 42 U.S.C. Section 2021 and 2121(b), or 2201(b).

(2) Any explosive safety or health standard or regulation implementing 10 United States Code 172.

NOTE:

This does not circumvent Secretary of Labor authority over other health and safety matters in the same operations. For example, a workplace in a munitions depot subject to DoD explosives safety standards is subject to OSHA jurisdiction for matters relating to machine guarding, noise, etc.

e. Should NSAM receive a request to inspect any NPS spaces containing ammunition or nuclear material, the NSAM OSHA coordinator will immediately forward the request to both the NPS OSHE Director, and the appropriate governing agency per OPNAVINST 5100.23G chapter 11.

f. NSAM and NPS leadership shall not provide DoD contractors with advance notice of inspections by Federal or state OSHA officials except:

(1) In cases of apparent imminent danger to Navy or contractor employees.

(2) When specifically requested by Federal OSHA or state OSHA officials.

NOTE:

Any person who violates the foregoing is subject to a fine of not more than \$1,000 or to imprisonment for not more than 6 months, or both.

g. When Federal or state safety and health officials require entry into a closed area to accomplish the purpose of their visit, and they cannot effectively be prevented from access to classified material by means such as covering the material to deny visual access, the following procedures apply:

(1) The NSAM OSHA Coordinator shall immediately notify the OSHA official and the NPS SSO of the need for a personnel security clearance to enter the closed area.

(2) In the case of state OSHA officials or other state safety and health officials, the NPS SSO, after verifying the need for a personnel security clearance, shall in coordination with the state official, contact the nearest OSHA regional or area office for a cleared Federal OSHA official to conduct the necessary inspection of the closed area.

(3) In the case of Federal OSHA officials, the NPS SSO, after verifying the need for a personnel security clearance, shall request:

(a) Verification of the Federal OSHA official's personnel security clearance.

(b) Expeditious processing of the visit request under reference 10-2 and 10-3. If the official's name is not on the list of cleared Federal OSHA personnel maintained by the cognizant security office, the NPS SSO shall contact the OSHA regional or area office and request an appropriately cleared Federal OSHA official.

h. Federal or state OSHA officials or other state safety and health officials shall not take photographs on any Navy shore installation. Only Navy personnel or cleared contractor personnel shall take photographs requested by any such officials. Navy or contractor personnel shall not deliver photographs to the requesting official until all film, negatives, digital media, and photographs have been fully

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screened and classified by proper Navy authority, as appropriate, in the interest of national security. Activities shall forward further requests, by such officials, for documented data, sketches of military installations and equipment, reports or design information (e.g., noise sound levels, profiles, etc.) to the appropriate screening official for similar action. Screening officials shall normally complete this process within a period of 15 working days from receipt of the material.

i. The NSAM OSHA Coordinator, NPS Occupational Safety, Health, and Environmental (OSHE) Director, approved NPS OSHE directorate representatives, and contracting officer, as appropriate, shall accompany Federal OSHA and state OSHA officials on inspections and investigations. Representatives of the contractor and contractor employees may accompany these officials where requisite security clearances are verified.

j. Federal OSHA or state OSHA officials shall have access to, and be provided with, copies of records and reports pertinent to specific NPS contractor accident investigations, upon request, unless prohibited from release by the Privacy Act or exempted from release under the Freedom of Information Act.

k. The NSAM CO shall refer all information regarding citations and notices issued to NPS contractors for violations of OSHA, state OSHA or other state safety and health standards involving DoD-furnished equipment, facilities or other property to the responsible contracting officer for appropriate action. The NSAM CO shall send a copy to CNO (OPNAV N09F) with copy to COMNAVSAFECEN.

l. DoD policy states that the contractor is responsible for resolving issues related to citations and initiating requests for delays in compliance with variations, tolerances, or exemptions from applicable standards.

m. The NSAM CO shall advise CNO (OPNAV N09F) with copy to COMNAVSAFECEN, via the chain of command, of any situation resulting from compliance with these procedures that could impair NPS's ability to properly carry out its mission in support of the national defense or adversely affect national security.

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1003. Federal Occupational Safety and Health Inspections of NPS Civilian Workplaces

a. Under the provisions of reference 10-1, Federal OSH officials, acting as representatives of the Secretary of Labor, may conduct announced or unannounced inspections at all Navy workplaces except military unique workplaces, workplaces staffed exclusively with military personnel, or workplaces located in foreign countries. Such inspections may be in response to a complaint from a Navy civilian employee or employee representative. They may schedule these inspections as part of DOL's targeted inspection program or as part of an evaluation of the DoD safety program. These inspections may also be solely at the discretion of the Secretary of Labor.

b. In addition to the exclusions mentioned above, the Secretary of Labor has no authority over nuclear safety and health or explosive safety aspects of operations specifically covered by:

(1) Any state nuclear safety or health standard or regulation implementing 42 U.S.C. 2021.

(2) Any nuclear safety or health standard or regulation implementing 42 U.S.C. Section 2021, 2021(b), or 2201(b).

(3) Any explosive safety standard or regulation implementing 10 U.S.C 172.

NOTE:

Though DoD exercises jurisdiction over nuclear and explosives safety and health, this does not circumvent Secretary of Labor authority over other health and safety matters in the same operations. For example, a workplace in a munitions depot, subject to DoD explosive safety standards, is subject to OSHA jurisdictions for matters relating to machine guarding, fall protection, electrical hazards, noise, etc.

c. The NSAM Commanding Officer (NSAM CO) and the NSAM OSHA Coordinator are the sole authorities for all external federal or state OSHA coordination and communication for NPS. This blanket responsibility includes, but is not limited to, OSHA inspections, OSHA targeted inspections, or any correspondence regarding OSHA activities within NPS workspaces.

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d. Federal OSHA officials shall initially report to the NSAM CO or NSAM OSHA Coordinator, present identification credentials, and state the purpose of the visit. NSAM personnel shall admit these officials to conduct inspections of authorized NPS workplaces without delay, at reasonable times, and in a reasonable manner. Additionally, the NSAM OSHA Coordinator shall make every reasonable effort to immediately notify the NPS OSHE Director as soon as any OSHA communication/contact occurs.

e. The NSAM OSHA Coordinator shall require Federal OSHA inspectors to show appropriate security clearances if they require entry into any NPS closed areas. Federal OSHA officials must verify all security clearances. Navy personnel shall take any photographs these officials request in these areas. All photos shall be tentatively classified as CONFIDENTIAL and shall not be released to Federal officials until the NPS legal department and SSO offices have screened and classified all film, negatives, digital media, and photographs as appropriate, in the interest of national security.

f. Qualified NSAM and or NPS OSHE Safety Representatives shall accompany Federal OSHA inspectors at all times.

g. Upon request, the NPS OSHE Directorate shall grant Federal OSHA officials access to available safety and health information related to NPS civilian employees. Examples are data on hazardous materials, copies of recent inspection reports, employee hazard reports and information on the status of abatement projects, provided such information is not specifically required by executive order to be classified in the interest of national defense or foreign policy and is otherwise releasable. The NPS OSHE Directorate shall also grant Federal OSHA officials access to and release copies of records and reports pertinent to specific accident investigations involving NPS civilian employees, provided such release is consistent with the Privacy Act and other applicable laws and regulations. With respect to the release of records pertinent to specific accident investigations involving NPS civilian employees, the NPS President shall:

(1) Refer requests for copies of Judge Advocate General (JAG) investigative reports to the JAG.

(2) Refer requests for copies of accident investigation reports to COMNAVSAFECEN (JAG), per reference 10-5.

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h. Federal OSHA officials may interview or be accompanied by NPS civilian employees or NPS employee representatives with appropriate clearances during their visit.

i. If Federal OSHA officials issue reports or notices of unsafe or unhealthful working conditions discovered during their inspections, the NSAM OSHA Coordinator will forward a summary report with a copy of such notices immediately via the chain of command to CNO (OPNAV N09F) and COMNAVSAFECEN. The NSAM OSHA Coordinator shall provide information copies to the NPS President and NPS OSHE Director.

j. If reports of inspections by Federal OSHA officials of NPS spaces require a response, the NPS President shall provide such responses to the NSAM OSHA Coordinator for release. The NPS OSHE Directorate may participate in informal conferences with OSHA officials, and utilize established OSHA review and appeal procedures for Federal agencies in developing final resolutions to issues raised in OSHA inspections.

(1) Replies to OSHA violation notices shall be within time frames assigned by OSHA, shall specifically state abatement action, and shall include appropriate backup information.

(2) If NPS cannot resolve deficiency or abatement actions at the local level, it shall refer the actions up the chain of command for resolution.

1004. OSHA Targeted Inspections

Under Federal agency program requirements, OSHA maintains a targeted inspection program for Federal installations. Each fiscal year, OSHA targets Federal installations for inspections based on the frequency rate of their occupational injury and illness cases. If a rate is above the threshold established by OSHA (usually the average Federal agency lost time case rate), OSHA would target the activity for inspection. Rate data is taken from Federal Employee Compensation Act (FECA) claims records. As part of the targeting program, OSHA requires each activity targeted for inspection to develop a targeting plan. The targeting plan shall identify high injury frequency work areas and specify actions to reduce mishap experiences. OSHA will notify the NSAM OSHA Coordinator if NPS is targeted, by letter, at the beginning of the fiscal year as well as request NPS prepare targeting plans. The NPS OSHE Directorate may use self-assessment improvement plans, as discussed in chapter 8 of this manual, as a substitute for the targeting plans. NPS shall

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forward, via the NSAM OSHA Coordinator, copies of the plans to the CNO (OPNAV N09F) and COMNAVSAFECEN. NPS shall also notify the CNO (OPNAV N09F) and COMNAVSAFECEN of inspection dates, and provide copies of reports and replies to reports.

1005. Overall Information Security Requirements

State and Federal agencies exercising their regulatory authorities in the area of OSH will periodically visit NPS. The NSAM OSHA Coordinator and NPS OSHE Directorate need to pay particular attention to ensure that Navy regulations and Federal statutes governing the control and protection of classified and sensitive unclassified information are properly enforced while avoiding any interference with the legitimate regulatory purpose being served. The NSAM OSHA Coordinator and NPS OSHE Directorate shall use the following guidelines:

a. Permit only personnel with appropriate security clearances access to classified information, under reference 10-2. Limit such access to classified information required to resolve the matter at hand.

b. NPS handles a considerable amount of sensitive unclassified information controlled under Navy security regulations, Federal export control regulations and other Government-wide requirements. While access to this information does not require a security clearance, it is important that the holder and recipient of the information comply with applicable security regulations governing dissemination and protection of the information.

c. Place emphasis on the fact that classified or unclassified sensitive information must be controlled. Thus, if the recipient of controlled Navy information prepares reports or other documents based on the information, advise the recipient to seek advice from the NPS SSO to ensure compliance with Federal laws and Navy regulations.

d. Classified or sensitive unclassified information produced during litigation or administrative proceedings also requires protection. Seek advice from the NPS Staff Judge Advocate (SJA) and the NPS SSO to ensure the classified or sensitive unclassified information is properly protected per reference 10-3.

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1006. Tracking OSHA Citations

The NPS OSHE Directorate will maintain a database of all OSHA citations as well as the resulting resolution actions and associated communications. Additionally, COMNAVSAFECEN also maintains a database of all NPS OSHA citations. Each citation will be tracked to completion by both the NPS OSHE Directorate and COMNAVSAFECEN.

Chapter 10 References

- 10-1. DODI 6055.1, Department of Defense Occupational Safety and Health Program, of 19 Aug 98,
<http://www.dtic.mil/whs/directives/corres/pdf/605501p.pdf>.
- 10-2. SECNAVINST 5510.30B, Department of Navy (DON) Personnel Security Program, of Oct 06,
<http://doni.daps.dla.mil/Directives/05000%20General%20Management%20Security%20and%20Safety%20Services/05-500%20Security%20Services/5510.30B.pdf>.
- 10-3. SECNAVINST 5510.36A, Department of Navy (DON) Information Security Program (ISP) Instruction, of Oct 06,
<http://doni.daps.dla.mil/Directives/05000%20General%20Management%20Security%20and%20Safety%20Services/05-500%20Security%20Services/5510.36A.pdf>.
- 10-4. OPNAVINST 5100.19E, Navy Safety and Occupational Health (SOH) Program Manual For Forces Afloat, of 30 May 07 .
<http://doni.daps.dla.mil/OPNAV.aspx?RootFolder=%2fDirectives%2f05000%20General%20Management%20Security%20and%20Safety%20Services%2f05%2d100%20Safety%20and%20Occupational%20Health%20Services&View=%7bDEF0EB10%2d3785%2d4F67%2dB5A1%2dAE9F8EB752BC%7d> .
- 10-5. OPNAVINST 5102.1D/MCO P5102.1B, Navy & Marine Corps Mishap and Safety Investigation, Reporting, and Record Keeping Manual, of 7 Jan 05,
<http://doni.daps.dla.mil/Directives/05000%20General%20Management%20Security%20and%20Safety%20Services/05-100%20Safety%20and%20Occupational%20Health%20Services/5102.1D%20w%20CH-2.pdf>.
- 10-6. OPNAVINST 5100.23 (series); Navy Occupational Safety and Health (NAVOSH) Program Manual, Chapter 11 (Inspections and Investigations of Workplaces by Federal and State OSH Officials)

Appendix 10-A

**Inspection of Department of Navy Workplaces by
Federal and State OSH Representatives**

(As referenced in OPNAVIST 5100.23H)

	SHORE			AFLOAT		
	Contractor Workplaces	Civilian Employees' Workplaces	Exclusively Military Unique Workplaces	Contractor Workplaces	Civilian Workplaces	Exclusively Military Unique Workplaces
Federal OSH Representatives	YES 4,5	YES 4,5	NO	YES 3,4,5	YES 3,4,5	NO
State OSH Representatives	YES 1,2,4,5	NO	NO	NO	NO	NO

NOTES:

1. State OSH plan must be approved by the DOL. If state plan is not approved, access may be denied. However, states without approved OSH plan may inspect contractor worksites only if there is no relevant Federal OSHA standard applicable to the contractor workplace.

2. If the Navy facility is in an area of exclusive Federal jurisdiction, state OSH representatives have no legal authority on the station and may be denied access to the facility.

3. Ships or service craft must be in port; Navy Department will not transport Federal OSHA representatives to ships or service craft that are underway.

4. Federal and state OSH representatives have no jurisdiction over military unique operations or equipment. In addition, these officials are not authorized to inspect workplaces or operations for compliance with any standard implementing 10 U.S.C 172 (explosive safety) or 42 U.S.C. Section, 2012, 2021, or 2022 (nuclear safety). Refer to paragraph 0103g and paragraph 1014 of this manual for military unique guidance and a discussion of OSHA's authority regarding the OSH aspects of these workplaces. The OSHA Field Operations Manual, April 2010, has additional guidance. See:
http://www.osha.gov/OshDoc/Directive_pdf/CPL_02-00-150.pdf.

From Chapter 13 of the OSHA Field Operations Manual:

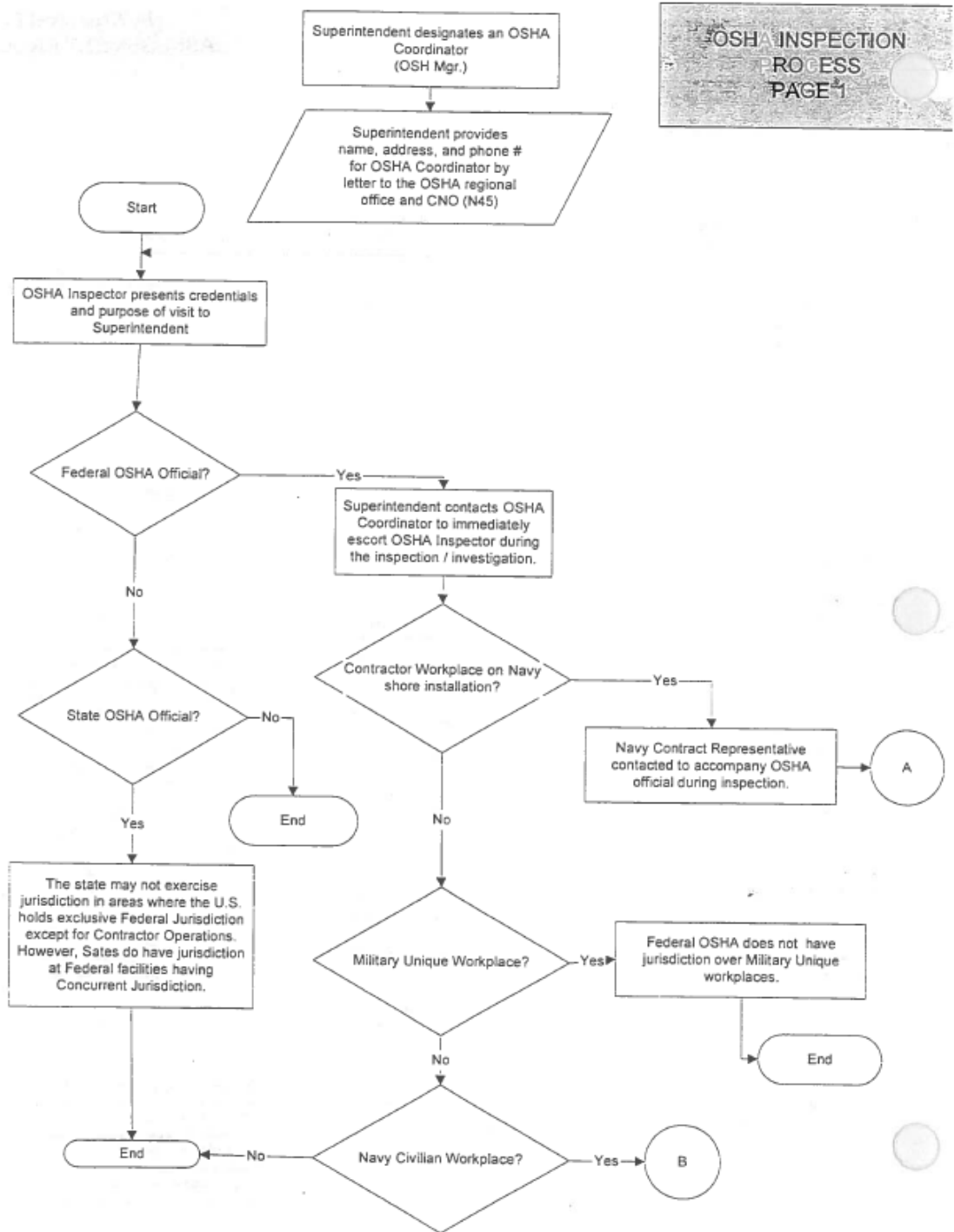
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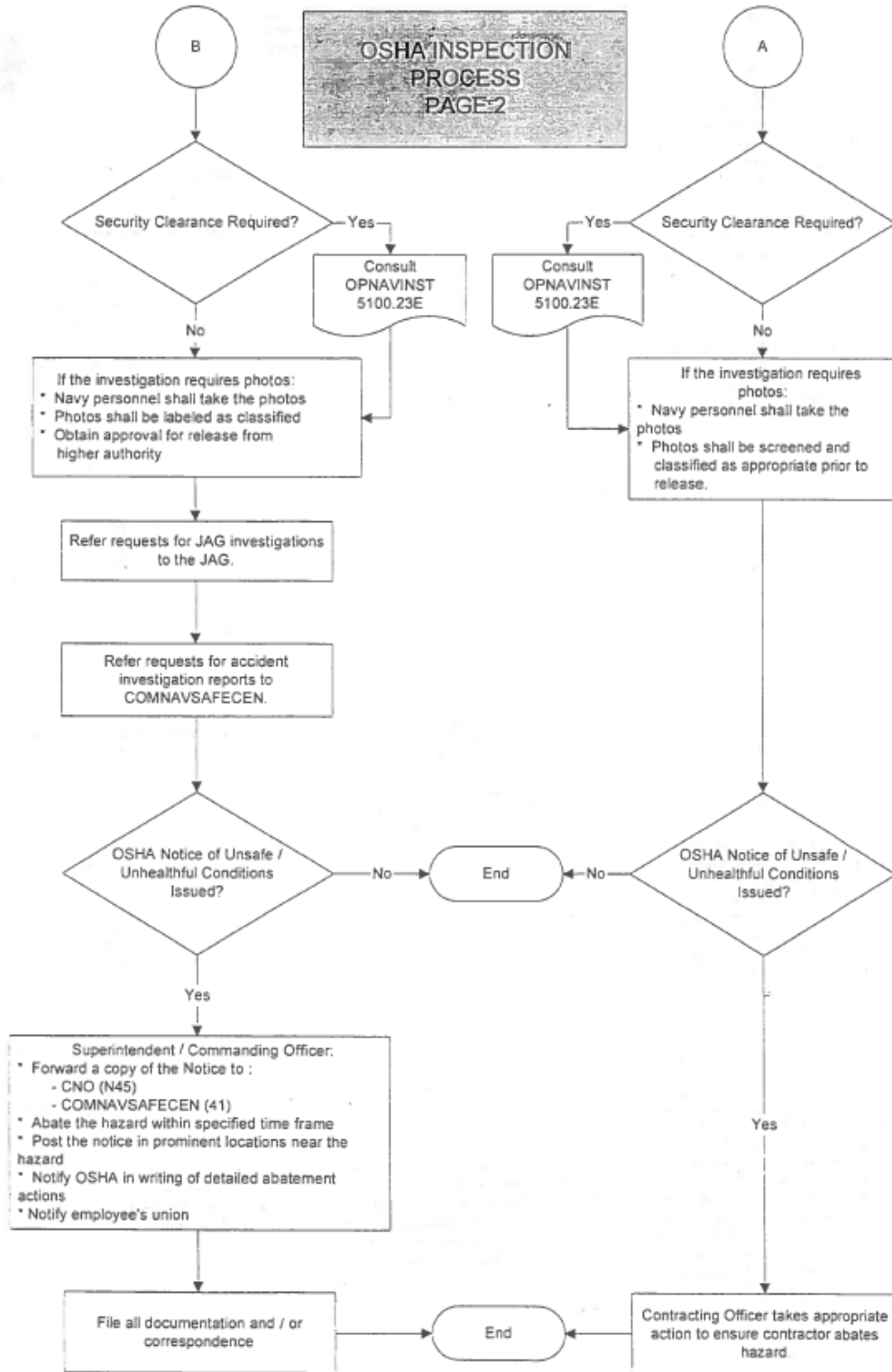
" OSHA retains jurisdiction over workplaces and operations comparable to those of private sector industries, such as:

- a. Vessel, aircraft, and vehicle repair, overhaul, or modification (except for equipment trials);
 - b. Construction;
 - c. Medical services;
 - d. Civil engineering or public works;
 - e. Supply services; and
 - f. Office work."
5. Inspections may be announced or unannounced.

Appendix 10-B

NPS OSHA Inspection Flow Chart





CHAPTER 11
HAZARD CONTROL AND HAZARD ABATEMENT PROGRAM

1101. Discussion

a. Section 19(a) of the Occupational Safety and Health Act requires government activities to provide all Federal employees with a safe and healthful place of employment. The Navy incurs significant costs every year as a result of injuries, illnesses and property damage resulting from workplace hazards. To fulfill this requirement, the Chief of Naval Operations (CNO) directs each level of command to establish and maintain an effective hazard control program.

b. Prevention and control of Naval Postgraduate School (NPS) workplace hazards is integral to risk management and control of costs, waste, and inefficiency, per reference 5-1. In addition to the direct costs of mishaps (medical costs, compensation costs, etc.) indirect costs (reduced productivity, investigation time, hiring and training time, etc.) can exceed direct costs by as much as 10 to 1. Examples of effective hazard mitigation and related cost savings can be found at: <http://www.public.navy.mil/navsafecen/Documents/SuccessStories2/CostSavng.pdf>

c. To minimize hazards in the workplace, the NPS Occupational Safety, Health, and Environmental (OSHE) Directorate and NSAM OSH Office shall identify hazardous conditions through workplace inspections (discussed in chapter 8), employee hazard reports (discussed in chapter 9), and industrial hygiene (IH) survey reports (discussed in chapter 7). They shall promptly eliminate or control all identified safety and health hazards, subject to priorities based upon the degree of risk posed by the hazards under the guidance of chapter 11, Hazard Abatement (HA) Program. The preferred method of HA is through application of engineering controls or substitution of less hazardous processes or materials. The next preferred method is the use of administrative controls, possibly in conjunction with personal protective equipment (PPE). Total reliance on PPE is acceptable only when all other methods are proven to be technically and or economically infeasible. This chapter discusses the basic principles of hazard control and assigns responsibility for implementing HA actions throughout NPS.

d. Qualified NPS OSHE Directorate and NSAM OSH Department personnel are specialists with training and experience in

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recognition, evaluation, and control of workplace hazards. They shall be thoroughly familiar with potential hazards created by various materials, equipment, and work processes used in NPS facilities. They shall also be aware of special designs required by OSHA and Navy developed standards to mitigate certain hazards.

e. Exclusions. Guidance contained herein does not apply to:

(1) Government-owned contractor-operated (GOCO) facilities. Policy for these facilities is set forth in the Federal Acquisition Regulations (FAR).

(2) The correction of deficiencies associated with design or operation of uniquely military workplaces (such as weapon systems), aircraft engineering change proposals to improve safety of flight, or ship alterations to improve fire protection or damage control.

(3) Deficiencies involving other Department of Defense (DoD) components or other Federal agencies. Correction of deficiencies that are the responsibility of another DoD component, Federal agency, or private organization shall be brought to the attention of the appropriate party for corrective action. The Federal Property Management Regulations (reference 11-6) describe procedures to follow with the General Services Administration (GSA). Executive Order (EO) 11196 makes the GSA responsible for abating hazardous conditions in GSA leased facilities. NPS shall refer problems that cannot be resolved to Deputy Under Secretary of Defense (Environmental Security) (DUSD (ES)) through the appropriate chain of command.

1102. Application of Hazard Control Principles

a. SOH in the Acquisition Process. While NPS is not typically in the business of major program acquisition and development, there are some overall Acquisition process concepts that apply to the research based contracting conducted on campus.

The National Institute for Occupational Safety and Health (NIOSH) is leading a national initiative to promote Prevention through Design (PtD) to address occupational safety and health needs in the design process to prevent or minimize the work-related hazards and risks associated with the construction, manufacture, use, maintenance, and disposal of facilities,

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materials, and equipment. NIOSH PtD information is available at <http://www.cdc.gov/niosh/topics/ptd/>.

b. Operating Procedures. NPS departments shall include appropriate health and safety requirements in Standard Operating Procedures (SOPs) or similar directives that are issued to direct the manner in which work is performed. Originators of instructions that affect productivity shall integrate instructions that affect well-being of workers to achieve NPS OSHE goals with minimal conflict or confusion. Originators of directives that involve work with potential hazards shall coordinate with the NPS OSHE Directorate to ensure they have considered applicable requirements.

c. Contracting Procedures. The Federal Acquisition Regulation (FAR), subpart 42, prescribes policies and procedures for contract administration. Nothing herein changes the requirements of FAR 42.

(1) Contractors. NPS Contractors must comply with applicable Federal, State, and local codes and standards, including Safety and Occupational Health (SOH) requirements, as well as any additional specific requirements invoked by contract. In addition, certain types of construction, renovation, and demolition contracts require inclusion of the FAR clause 52.236-13 accident prevention clause that requires compliance with the U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM-385-1-1. The accident prevention clause should also be added to contracts involving high hazard work such as roofing, scaffolding, high voltage electrical, confined space, etc. By adding this requirement, NPS is requiring the contractor to implement EM-385-1-1, provide an accident prevention plan, and develop an activity hazard analysis for each phase of work. NPS standards, such as this instruction, should not be referenced as a requirement for the contractor unless the contractor is hired to perform SOH services for Navy employees. In addition, when any work under a service, supply, or research and development contract is to be performed on government-owned, leased, or controlled real property, or on board government-owned, leased, or controlled plants or equipment, a determination must be made whether to use FAR clause 52.236-13, and or its alternate EM-385-1-1. The need for requiring such inclusion must be determined from the hazards presented by the contract work to be performed. The NPS contracting officer, in consultation with the technical proponent, Research Department and NPS OSHE Directorate personnel, will make the determination.

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(2) Contracting Officer and Contracting Officer's Representative (COR). Administrative oversight of contractors is the primary responsibility of the contracting officer and or the contracting officer's designated representative.

It is essential that NSAM OSH and NPS OSHE Directorate personnel not assume a regulatory role relative to oversight of the contractor safety activities and performance except in an imminent danger situation. The role of the NSAM Safety Office and the NPS OSHE Directorate is to serve as an advisor(s) and provide professional SOH support to the contracting officer prior to, and during contract execution.

(3) Multi-Employer Worksites. Under worker SOH laws, NPS is charged with providing employees with a safe and healthful workplace. If there is a violation of OSHA standards, OSHA will look first to the employer of the injured employee as the responsible party. However, in instances where multiple employers are sharing a workspace, OSHA multi-employer worksite policy may apply. Additionally, an employer determined to control the worksite and the safety practices of other employers may also be held accountable for those hazards. With the continued increase of functions performed by contractors at NPS facilities the potential implications are significant. NPS must have a clear understanding of who has responsibility, by contract, agreement, or practice for the safety and health of all contractor employees. This determination should only be made in consultation with the contracting officer and appropriate legal counsel.

d. Purchasing Procedures.

(1) Controlled Items. A controlled item is any item that contains or belongs to the following categories: Laser emitting devices, Radiation sources and/or devices, Radio Frequency (RF) emitting devices, Explosives, Hazardous Material (HAZMAT), and Lead. If any controlled item is purchased through the NPS purchasing system, NPS personnel shall follow the specific purchasing procedure outlined in each of the controlled items' SOP or local operating instruction.

(2) Uncontrolled Items. The NPS OSHE Directorate will, to the maximum extent practical, provide safety and health regulatory guidance with respect to uncontrolled equipment and material purchases made by NPS personnel. This guidance should help to alleviate follow on Hazard Abatement action by the NSAM

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Safety Office, NPS OSHE Directorate and NPS School leadership. Ideally, most purchase guidance will be provided during the research proposal review process, or via other documented purchase processes eg HAZMAT purchasing.

e. Interim HA Measures. NPS workspace owners shall use immediate, temporary HA measures during the time needed to design and implement permanent hazard control measures. Where engineering controls are not immediately applicable, administrative controls and or PPE are appropriate for use as interim HA measures.

f. Permanent HA. Engineering control methods are the preferred method of hazard control, followed by administrative controls and PPE. NPS, and its host command NSAM, shall use feasible engineering controls to reduce hazardous exposure, even when only partial reduction of exposure is possible through engineering methods. NPS and/or NSAM shall apply two criteria to determine whether engineering controls are feasible. First, a control is technologically feasible if it is available off-the-shelf or if technology exists which can be adapted to the hazard in question. Second, a control is economically feasible if it can be shown that the cost of the control is justified by the benefit it produces. On the other hand, if the expected reduction of the hazard through implementation of an engineering control is insignificant in terms of increased protection and the cost of implementing the control is great, then the control is economically infeasible.

1103. Development of Hazard Control Recommendations

NSAM OSH and NPS OSHE personnel shall consider the following possible actions when recommendations are developed for prevention or reduction of hazards:

a. Avoiding, eliminating, or reducing deficiencies by engineering design, material selection, or substitution.

b. Isolating hazardous substances, components, and operations from other areas, personnel, and incompatible materials.

c. Incorporating fail-safe principles to prevent a catastrophic injury to personnel, damage to equipment, or inadvertent operation of critical equipment.

d. Relocating equipment and components so that personnel access during operation, maintenance, repair, or adjustment does not result in exposure to hazards such as chemical burns, electrical shock, electromagnetic radiation, cutting edges, sharp points, or toxic atmospheres.

e. Providing suitable warning and notes of caution concerning required personnel protection during operation, assembly, maintenance, and repair instructions.

f. Providing distinctive markings on hazardous components, equipment, or facilities.

g. Requiring the use of PPE when other controls do not reduce the hazard to an acceptable level.

h. Monitoring exposure to ensure that engineering controls effectively reduce the hazard.

i. Training employees to recognize hazards and take appropriate precautionary measures.

j. The NPS OSHE Directorate and the NSAM OSH Office, shall review and concur with self-assessments and improvement plans and shall review the progress achieved in implementing improvement actions at least annually.

1104. Hazard Abatement Processing and Tracking

Hazards can be identified through annual inspections, industrial hygiene surveys, employee hazard reports and other inspections. The NSAM OSH Department is responsible for managing hazard abatement processes. NSAM OSH personnel will issue a NAVOSH Deficiency Notice (NDN). The owner of the NDN (eg. NPS, NSAM, or NAVFAC) is responsible for all abatement actions. Regardless of the hazard identification method, hazards should be processed as follows:

a. Risk Assessment. NSAM OSH and/or qualified NPS OSHE Directorate personnel shall assign each identified/validated hazard that cannot be corrected immediately a risk assessment code (RAC). The RAC represents the degree of risk associated with the hazard and combines the elements of hazard severity and mishap probability taking into account potential health effects from the hazard. Appendix 11-A provides instructions for calculating the RAC for asbestos deficiencies.

b. Hazard Severity. The hazard severity is an assessment of the worst reasonably expected consequence, defined by degree of injury or occupational illness which is likely to occur as a result of a hazard. NSAM OSH and/or qualified NPS OSHE personnel shall assign hazard severity categories by Roman numeral according to the following criteria:

(1) Category I - Catastrophic: The hazard may cause death.

(2) Category II - Critical: May cause severe injury or severe occupational illness.

(3) Category III - Marginal: May cause minor injury or minor occupational illness.

(4) Category IV - Negligible: Probably would not affect personnel safety or health, but is, nevertheless, in violation of a Navy SOH standard.

c. Mishap Probability. The mishap probability is the probability that a hazard will result in a mishap, based on an assessment of such factors as location, exposure in terms of cycles or hours of operation and affected population. NSAM OSH and/or qualified NPS OSHE personnel shall assign a letter to mishap probability according to the following criteria:

(1) Subcategory A - Likely to occur immediately

(2) Subcategory B - Probably will occur in time

(3) Subcategory C - Possible to occur in time

(4) Subcategory D - Unlikely to occur

d. RAC. The RAC is an expression of risk, which combines the elements of hazard severity and mishap probability. Using the matrix shown below, the RAC is expressed as a single Arabic number that can be used to help determine HA priorities.

<u>Hazard Severity</u>	<u>Mishap Probability</u>			
	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>
I	1	1	2	3
II	1	2	3	4
III	2	3	4	5
IV	3	4	5	5

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RAC

- 1 - Critical
- 2 - Serious
- 3 - Moderate
- 4 - Minor
- 5 - Negligible

e. SOH Deficiency Notice. Qualified NSAM OSH and/or NPS OSHE personnel shall describe NPS workplace hazards with a RAC of 1, 2, or 3 that cannot be corrected immediately in ESAMS. The NSAM OSH Office shall forward a copy of the notice to the official in charge of the operation where the hazard exists. The supervisor responsible for the deficiency shall post a copy of the notice in the area of the hazard until the hazard has been corrected. Additionally, whenever a supervisor updates a deficiency report in ESAMS, as required, they shall print and post an updated deficiency notice, to accurately reflect the status of the abatement action and required interim controls.

NOTES:

- eSAMS shall be utilized to generate and track all Hazards Deficiency notices. It is imperative that both NSAM OSH and NPS OSHE personnel have full access to all NPS HA information.
- The NSAM OSH Office shall transcribe RAC 1, 2 and 3 hazards reported by higher echelon SOH personnel (Oversight and Command Inspections) or the Occupational Safety and Health Administration (OSHA) to NAVSOH Deficiency Notices into ESAMS.

The NPS official in charge of the workspace and/or operation shall take prompt action to correct the hazard and within 30 days of the date of the notice. All NPS activities shall implement interim protective measures pending permanent abatement and list interim corrections on the notice. The notice shall also indicate the status of the hazard including whether or not the hazard has been corrected and specific abatement action taken. At a minimum, the affected NPS workspace or process owner shall contact the NSAM OSH office monthly with HA status updates until such time as all permanent HA controls are in place.

f. Abatement Plans. NPS NDN owners shall coordinate with the NPS OSHE Directorate to prioritize and develop Hazard Abatement (HA) plans, and document them in ESAMS. To the

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maximum extent practical, NPS OSHE Directorate personnel shall coordinate with NSAM OSH personnel when developing HA plans. The HA plan shall include the following standard data for each hazard (or logical grouping of similar hazards):

- (1) i - Dates of hazard identification
- (2) ii - Location of the hazard(s)
- (3) iii - Description of the hazard(s) including reference to applicable standards
- (4) iv - Calculated RAC or estimated RAC (with hazard severity, probability of single occurrence, and annual personnel exposure cited separately). Hazards with an assigned RAC shall remain at the originally assigned RAC throughout the period of abatement (e.g., not reduced to a lower RAC following implementation of interim measures or elevated to a higher RAC draw attention to the hazard) until such time as permanent abatement is complete.
- (5) Interim control measures in effect
- (6) Description of the abatement action, including estimated cost and completion date
- (7) Abatement priority
- (8) Closeout statement, indicating completed abatement action and cost, with date of completed action; or process discontinued or worksite vacated. A computerized file is acceptable, vice the hard copy, as long as it contains all of the required closeout information. The NSAM OSH Office shall make the HA plan available for review locally by recognized employee organizations, where applicable.

1105. Interim Controls

NPS activities may be unable to immediately abate deficiencies under normal working conditions, and some hazards may require temporary measures to protect employees from harmful exposure. Therefore, appropriate interim controls shall be established as soon as unsafe or unhealthful exposures are identified. NSAM OSH personnel shall document such controls based on input from the NDN owner. The NSAM OSH Office and/or qualified NPS OSHE Directorate personnel shall review and approve interim

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protective measures in effect for more than 30 days and revise, as appropriate.

1106. Hazard Abatement Project Development

The identification of a hazardous condition and the development of a deficiency abatement project require the close cooperation of NPS personnel, NSAM facilities management, NSAM OSH and NPS OSHE Directorate personnel. NPS can obtain specific engineering assistance from NSAM NAVFAC via an Engineering Service Request. The proposed project should remove, control or fully correct the hazardous exposure in the most effective manner.

a. Local Funding. All NPS budget submissions shall include items for correction of SOH deficiencies within the NPS's funding authority and scope as a tenant command.

b. Centrally Managed SOH Funding. NPS shall submit projects to correct hazards that are beyond the funding capability and scope of a tenant command to the cognizant NSAM office.

c. Project Acceptance Criteria. To be considered for central funding, projects must meet the following criteria:

(1) Since Operation and Maintenance, Navy (O&M, N) funds will be used for minor construction, repair and construction/procurement of installed equipment as defined in reference 11-7. Dollar range limitations for projects eligible for centrally managed HA funds are as follows:

(a) Minor construction: \$50,000 to \$1,000,000.

(b) Repair: \$50,000 to \$1,000,000

(c) Electrical Deficiency Repairs: Equal to or more than \$10,000

(d) Ergonomics: Equal to or more than \$10,000

1. Regions or activities may only submit projects correcting deficiencies with a RAC of 1, 2, or 3.

2. Projects must be for the protection of safety and health vice protection of property. For example, installation of fire alarms, emergency egress, and other life safety projects for the emergency evacuation of personnel is

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acceptable. Regions or activities may not submit the installation of sprinkler systems to protect property.

3. HA funds will pay for asbestos abatement projects only if the asbestos is friable, accessible and damaged or the asbestos is in an occupied location where it is subject to frequent damage even though immediately repaired by temporary emergency actions.

4. Regions or activities can submit upgrading projects if they are to alleviate severe hazardous conditions. For example, projects that provide guardrails where none exist may be submitted. Projects to raise guardrails from 38 to 42 inches to meet SOH standards would not be considered as correcting severe hazards.

(2) Unauthorized Projects. Unauthorized projects, which normally do not qualify for central HA funding, include the following:

(a) Projects that are clearly due to the lack of maintenance or repair or have been expanded beyond SOH scope to include such elements. Regions and/or activities shall fund the abatement of hazards developed due to wear and tear of facilities and equipment from appropriate region/activity or claimant funds.

(b) Projects for environmental cleanup, compliance, or protection.

(c) Projects to provide accommodation for handicapped or disabled persons. These are covered under other chapters.

(d) Projects for U.S. Marine Corps facilities

(e) Projects for Government Owned Contractor Operated (GOCO) facilities

(f) Projects for purchase of ergonomic furniture

1107. Prioritization of Hazard Abatement Projects

In any given year, the backlog of deficiencies may exceed the funds available for SOH projects. It is, therefore, necessary that both NPS and NSAM employ a consistent and systematic methodology for the prioritization of these projects. In order

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to ensure that projects of highest importance receive first consideration, NPS prioritizes projects as follows:

a. Locally Funded Projects. The NPS OSHE Directorate shall prioritize projects that do not meet the criteria for centrally managed funding under the SOH MPHA program based on the RAC assigned to each identified hazard. If several projects for correction of hazards with identical RACs exist, then the NPS OSHE Directorate shall assign priorities based on the number of persons potentially exposed to the hazard and the total cost.

b. Centrally Funded Projects. NSAM will validate all projects under their purview as host command and shall assign an appropriate abatement priority level with due consideration to a particular project's impact to NPS mission accomplishment.

1108. Responsibilities

The control of hazards is the inherent responsibility of each and every person aboard NPS facilities with specific administrative responsibilities applicable to the NPS OSHE Directorate.

a. The NPS President via the NPS OSHE Directorate and with the NSAM OSH Office shall:

(1) Systematically identify hazards, prioritize, and apply controls through data analysis and application of safety management tools (i.e., process review and measurement, job hazard analyses, and operational risk management) to all aspects of NPS operations and activities.

(2) Apply procedures for control across the design, engineering, installation, operations, maintenance, and disposal interface ensuring the integration of a dynamic hazard control program consistent with operational and SOH requirements.

(3) Submit annual self-assessment and improvement plans per the prescribed schedule in chapter 8.

Chapter 11 References

11-1. 29 USC 654, OSH Act of 1970,
http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=3359&p_table=OSHACT

11-2. Title 29 CFR Part 1910, Occupational Safety and Health Standards,
http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9696

11-3. DODINST 6055.1 of 19 Aug 1998, DoD Safety and Occupational Health Program,
<http://www.dtic.mil/whs/directives/corres/pdf/605501p.pdf>

11-4. SECNAVINST 5100.10J of 26 Oct 2005, Department of the Navy Policy for Safety, Mishap Prevention, Occupational Health and Fire Protection Programs

11-5. American National Standards Institute/American Industrial Hygiene Association (ANSI/AIHA Z-10-2005), American National Standard for Occupational Health and Safety Management Systems

11-6. Title 41 CFR 101, Federal Property Management Regulations,
www.access.gpo.gov/nara/cfr/waisidx_02/41cfr101-19_02.html.

11-7. OPNAVINST 11010.20G, CH-1 of 2 Sep 2010, Facilities Projects Manual.
<http://doni.daps.dla.mil/Directives/11000%20Facilities%20and%20Management%20Ashore/11-00%20Facilities%20and%20Activities%20Ashore%20Support/11010.20G%20w%20CH-1.pdf>.

11-8. OPNAVINST 5100.23 series, current change and revision, NAVY SAFETY AND OCCUPATIONAL HEALTH PROGRAM,
<http://doni.daps.dla.mil/OPNAV.aspx?RootFolder=%2fDirectives%2f05000%20General%20Management%20Security%20and%20Safety%20Services%2f05%2d100%20Safety%20and%20Occupational%20Health%20Services&View=%7bDEF0EB1%2d3785%2d4F67%2dB5A1%2dAE9F8EB752BC%7d>

Appendix 11-A

Instructions for Determining Risk Assessment Code (RAC) for Asbestos Projects

Assign a risk assessment code (RAC) to asbestos projects using the following methodology derived from DODINST 6055.1 of 19 August 1998.

1. **Probability**: determine the number of people exposed to asbestos then determine the number of hours per week the average person is exposed. Note the letter where the row and column intersect. This is the probability.

NO. OF PEOPLE		HOURS / WEEK		
		1-8	9-40	>40
1-4		D	C	B
5-9		C	C	B
10-49		C	B	A
50 or more		B	B	A

2. **Hazard Severity**: determines the severity based either on the naval asbestos facility score (NAFS) if available in the activity's asbestos inventory or from a judgment of the condition of the asbestos involved. The resulting Roman numeral is the hazard severity. (For more information on NAFS see Naval Facilities Engineering Service Center Pub SP-2027-ENV of Sep 97, Asbestos Control Program Operations and Maintenance Plan.)
(NOTAL)

NAFS=66-102 or Severely Damaged	I
NAFS=33-65 or Damaged	II

3. **Risk Assessment Code (RAC)**: an expression of risk, which combines the elements of hazard severity and mishap probability. Using the matrix shown below, the RAC is expressed as a single Arabic numeral that can be used to help determine hazard abatement priorities.

HAZARD SEVERITY	PROBABILITY			
	A	B	C	D
I	1	1	2	3
II	1	2	3	NA

NOTE: NAFS less than 33 or undamaged asbestos is not considered to be a hazard in most cases. If you believe asbestos at your activity is an exception, complete a project application form with justification.

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CHAPTER 12 FALL PROTECTION

1201. Purpose

To establish fall protection program policy and to prevent mishaps, injuries, and equipment damage, in accordance with reference 12-1.

1202. Scope

This Chapter applies to civilian employees and military members at all Naval Postgraduate School (NPS) sites.

1203. Policy

All civilian employees and military members who are working 4 feet above the lower level for general industry standard, 5 feet above the lower level for shipyard standard, 6 feet above the lower level for construction standard, or where there is a possibility of a fall from any height onto dangerous equipment, into a hazardous environment, or onto an impalement hazard, are required to be protected from falling by guardrails, safety nets, warning line systems, safety monitoring systems, and/or personal fall-arrest systems. Wherever it is demonstrated that the use of a fall-arrest system creates a greater hazard, NPS will develop and implement a fall protection plan that complies with reference 12-1. NPS uses the *Department of the Navy Fall-Protection Guide for Ashore Facilities*, reference 12-2, as its fall protection program.

1204. Duties and Responsibilities

a. The NPS Fall Protection Program Manager: An individual within the NPS OSHE Directorate who is responsible for the development and implementation, auditing and evaluation of the NPS fall protection program. The NPS Fall Protection Program Manager through training, knowledge and expertise should be able to identify, evaluate and address existing and potential fall hazards. The manager will ensure that personnel exposed to fall hazards and other personnel involved in the program receive adequate training as outlined in appendix 12-A.

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NOTE:

The program manager position need not be an exclusive title designation. With adequate education, training, and experience the same person may also function as a qualified person or competent person.

b. Competent Person for Fall Protection: A person designated to be responsible for the immediate supervision, implementation and monitoring of the fall protection program, who through training knowledge and expertise is capable of identifying, evaluating and addressing existing and potential fall hazards and in the application and use of personal fall arrest and rescue systems or any component thereof, AND who has the authority to take prompt corrective measures to eliminate or control the hazards of falling. The competent person for fall protection duties and responsibilities are to conduct onsite evaluation and supervision of the fall protection program.

c. Qualified Person for Fall Protection: A person with a recognized engineering degree or professional certificate and with extensive knowledge, training, and experience in fall protection and rescue field, who is capable of performing design, analysis, and evaluation of fall protection and rescue systems and equipment.

d. End User of Fall Protection: A person who has been trained in the use of assigned fall protection equipment, including hands-on training and practical demonstrations in a typical fall hazard situation, and uses personal fall arrest or fall restraint/positioning equipment while performing work assignments. End user shall be trained by a person who has the knowledge, expertise, and education to deliver the training as determined by the competent person for fall protection. Hands-on training for the end users shall be conducted by the competent person or the NPS fall protection manager.

1205. Responsibilities

a. NPS Fall Protection Program Manager is responsible for:

(1) Ensuring that end users and competent persons are provided initial training and periodic training updates, as required by references 12-1, 12-2, and 12-3.

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Ensuring that a written and electronic certification is maintained for each authorized person and that it includes the individual's name, the date on which he/she was trained, and the signature of the trainer. All electronic training records will be maintained on ESAMS.

(2) Identifying fall-hazardous or dangerous conditions in the workplace. Conducting hazard assessments of any fall-hazard identified spaces and recommend controls to abate any noted fall hazards. Additionally, he/she is responsible for ensuring seamless coordination with the NSAM OSH department in the event a fall-hazard incident requires an accident investigation.

(3) With the assistance of the City of Monterey Fire Department and Naval Facilities Engineering Command (NAVFAC) Public Works (PW), developing, preparing, and implementing fall protection, prevention, rescue, and evacuation plans.

(4) Managing the fall protection program and developing an appropriate training program and equipment purchase list (to be approved by the Fall Protection Program Manager). Maintaining a database of fall-arrest equipment for civilian employees and military members, and providing oversight for equipment inspection, maintenance, and storage.

(5) Retiring and destroying body harnesses, lanyards, and energy absorbers that are over 5 years old.

(6) Inspecting self-retracting lifelines (SRLs) every 6 months. Ensuring that SRLs are returned to the manufacturer annually for servicing and recertification.

(7) Ensuring that lanyards, energy absorbers, and body harnesses have a permanently attached label that: indicates the manufacturer's name, serial number/lot number, date of manufacture, maximum elongation, maximum arresting force, and maximum free-fall capacity; and that is Occupational Safety and Health Administration (OSHA)- and ANSI Z359.1-approved.

b. Naval Facilities Engineering Command (NAVFAC) Public Works (PW) is responsible for:

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(1) Preparing, reviewing, approving, and modifying fall protection, prevention, rescue, and evacuation plans.

(2) Designing, reviewing, preparing, and approving facility related fall protection specifications.

(3) Preparing and reviewing contract documents for fall protection systems. Being trained to incorporate fall protection and prevention control measures into construction design work.

(4) Developing fall protection plans in coordination with the NPS OSHE Directorate and the NSAM OSHE department when it is demonstrated that it is not feasible to use guardrails, safety nets, or personal fall-arrest systems. Working with the City of Monterey Fire Department in developing fall evacuation plans and emergency rescue procedures.

c. Departments are responsible for:

(1) Ensuring that civilian employees and military members inspect their fall protection equipment before using, and consult the NPS OSHE Directorate when they believe that their mission requires personal fall protection equipment.

(2) Ensuring that civilian employees and military members become qualified end-users of fall protection before using personal fall protection equipment.

(3) Providing all requisite fall protection equipment when facility related engineering controls are not adequate or do not meet required fall protection requirements.

1206. Training

a. Training NPS civilians and military personnel using fall protection equipment or other personnel involved in the fall protection program shall be trained in accordance with appendix 12-A. Training requirements for Navy personnel not listed in appendix 12-A and who are involved in the fall protection program, shall be determined by the NPS fall protection program manager. The competent person for fall protection shall determine which

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personnel require fall protection awareness training. All fall protection training shall be in accordance with the requirements of Navy Instructions and Guidelines and the training requirements addressed in reference 12-1 thru 12-3.

b. Retraining. Retraining in relevant topics shall be provided to the end user when:

(1) The end user has been observed using fall protection equipment in an unsafe manner,

(2) The end user has been involved in a mishap or a near-miss incident,

(3) The end user has received an evaluation that reveals that he or she is not using the fall protection equipment properly,

(4) The end user is assigned a different type of fall protection equipment; and/or

(5) A condition in the workplace changes in a manner that could affect the safe use of the fall protection equipment that the end user is to utilize.

c. Refresher/update training. Personnel exposed to fall hazards shall receive refresher training on the safe use of fall protection equipment at an interval once every two years. Refresher/update training for other personnel involved in the fall protection program is required in order to stay current with the fall protection and rescue educational requirements in accordance with appendix A as well as the refresher/update training requirements addressed in reference 12-1 and 12-2. Both initial and refresher training is available via ESAMS online training.

Chapter 12

References

12-1. OPNAVINST 5100.23 (series), Navy Occupational Safety and Health (NAVOSH) Program Manual, Chapter 13

12-2. Department of the Navy Fall-Protection Guide for Ashore Facilities, August 2013
http://www.public.navy.mil/navsafecen/Documents/OSH/FP/Ashore_FP_Guide.pdf

12-3. American National Standards Institute (ANSI) Z359.1-2007, Safety Requirements for Personal Fall Arrest, Systems, Subsystems and Components
<http://www.ansi.org/>

12-4. 29 CFR PART 1910, Occupational Safety and Health Standards; 1910.21 thru 1910.24; 1910.27 thru 1910.30; 1910.66-Appendices C & D; 1910.67; 1910.68; 1910.176; 1910.178; 1910.179; 1910.180; 1910.268; and 1910.269.
http://www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_toc_level=1&p_part_number=1910/.

12-5. 29 CFR 1910 Walking and Working Surfaces, Personal Protective Equipment (Fall Protection systems); Proposed Rule (May 2010).

12-6. 29 CFR PART 1926.500, Subpart M, Fall Protection Requirements in the Construction Industry
http://www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_toc_level=1&p_part_number=1926/.

Appendix 12-AFall Protection Training Requirements and Methods

Trainee GROUP	Desired Training Objectives	Training Mechanism and Type
End User/Authorized Person	<ul style="list-style-type: none"> - Selection and safe use of equipment - Application limits - Proper anchoring and tie-off techniques - Estimation of fall distances - Determination of deceleration distance - Total fall distance - Methods of inspection - Storage, care, and maintenance of equipment - Applicable regulations - Limitations of equipment - Specific lifelines - Rescue and self-rescue techniques - Recognize fall-hazard deficiencies - Recognize fall risks at worksite 	Hands-on training and practical demonstrations (a must) for using local equipment or on-site training as applicable to the activity
Competent Person for Fall protection	<ul style="list-style-type: none"> - In addition to the end user training, the competent person for fall protection training including hands-on and practical demonstrations, shall also include: - Various fall protection systems - Donning of the equipment - Proper inspection and record keeping - Recognize and identify fall hazards at work-site - Equipment installation techniques - Proper anchoring and tie off techniques - Risk assessment and hazard 	ESAMS provided online training, additionally, hands on training with another competent person, of the NPS Fall protection Manager.

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Trainee GROUP	Desired Training Objectives	Training Mechanism and Type
	ranking - Preparation, update, review and approval of fall protection and prevention plans, and rescue and evacuation plans - Applicable fall protection regulations - Plan and specification review and approval-	
Qualified Person for fall protection	- Design, select, analyze, and certify fall protection systems and equipment - Preparation, update, review, and approval of fall protection and prevention plans, and rescue and evacuation plans - Fall protection regulations and standards - Plan and specification review and approval	As approved by NPS Fall Protection Manager IAW Ref 12-1 thru 12-5
Fall Protection Program Managers	- Recognize and identify fall hazards at workplaces - Understand best practices, criteria and requirements for development and managing fall protection program - Risk assessment and hazard ranking - Selection, safe use, and limitation of fall protection systems and equipment - Storage, care, and maintenance of the equipment - Applicable fall protection regulations - Program audit and evaluation criteria - Understand duties, responsibilities and training requirements for personnel involved in the fall protection program	Course Number CIN A 493 0084 or as approved by NAVSAFCEN

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Trainee GROUP	Desired Training Objectives	Training Mechanism and Type
End User/Authorized Person Refresher/Update Training (every 2 years) (Competent person for FPM will determine the extent of the refresher training)	Selection and safe use of equipment - Application limits - Proper anchoring and tie-off techniques - Estimation of fall distances - Determination of deceleration distance - Total fall distance - Methods of inspection - Storage, care, and maintenance of equipment - Applicable regulations - Limitations of equipment - Specific lifelines - Rescue and self-rescue techniques - Recognize fall-hazard deficiencies-	(Competent Person determines if Hands-On training and practical demonstrations are required)
Refresher Training for the Competent Person for Fall Protection (Every 2 years)	-Stay current with the fall protection and rescue educational requirements -Acquire knowledge and understanding of the best fall protection practices and application of fall protection /rescue equipment and systems,	ESAMS provided training

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CHAPTER 13
MISHAP REVIEW AND ANALYSIS

1301. Commanding Officer Review

a. In any instance where Naval Postgraduate School (NPS) is a tenant command, the appropriate facility Commanding Officer will retain all authority on mishap reporting and investigation. For NPS' main campus, Commander, Naval Support Activity Monterey (NSAM) has delegated all mishap review authority for incidents onboard NSAM facilities to the NSAM Occupational Safety and Health (OSH) program director. The NSAM OSH program director shall decide which mishaps to review. On any NPS owned facilities, if applicable, the NPS Occupational Safety, Health, and Environmental (OSHE) Directorate shall conduct any mishap reviews per the direction of the President, NPS. At a minimum, the appropriate OSH oversight department shall review any mishap that requires the submission of a Safety Investigation Report (SIR) per reference 13-2. All reviews will be conducted in accordance with reference 13-2.

b. All NPS aviation related mishaps shall be handled separately and in accordance with reference 13-3 and NAVPGSCHOLINST 3750.1.

c. All NPS mishaps will be reported according to the Navy's mishap reporting guidance instruction OPNAVINST 5102 (current series/change/revision).

1302. Mishap Analyses

The cognizant OSH department, typically NSAM Safety for NPS main campus, will conduct detailed analyses of their mishap experiences, including "Near Miss" data and develop annual fiscal year (FY) or calendar year (CY) mishap reduction goals. In any instance where NPS personnel are involved in mishaps, not on NPS owned property, the NPS OSHE Directorate will obtain any and all CY or FY mishap analysis from host commands for analysis. The NPS OSHE Directorate shall include host command goals, to the maximum extent practical, in NPS OSHE goals and identify specific strategies and measurement standards in order to develop actions for NPS and host command goal attainment.

1303. Injury/Illness Treatment (Civilian Employees Only)

a. Reporting Procedures. NPS Employees shall report immediately to their supervisors any occupational injury or

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illness. If an employee requests medical care, the supervisor shall offer to refer the employee to the nearest appropriate medical treatment facility (MTF) for examination and recording of the injury in the employee medical record. Referral to the nearest MTF is not mandatory on the employee's part, nor shall it be construed as the initial choice of the attending physician.

b. Injury Report Control.

(1) Ultimately, all NPS personnel are responsible for injury and mishap reporting. Specifically though, NPS supervisors, PIs, workspace owners or process owners shall immediately notify the cognizant OSH department and the NPS OSHE Directorate office in the event of a mishap that involves treatment at a medical facility or more than 1 day at work lost due to a mishap. Incident reporting must be accomplished via ESAMS. However, in instances where network connectivity is not available, alternate reporting mechanisms may be used, phone, email, or in person. The NPS OSHE Directorate shall ensure all incidents, regardless of host command, are entered into ESAMS for tracking and management purposes.

(2) All NPS personnel are HIGHLY encouraged to report any mishap, even when it doesn't meet the medical treatment or 1 day of work lost criteria. Early identification of potential problems enables key preventative action so a serious mishap never occurs.

NOTE:

All NPS aviation related mishaps will be investigated and reported IAW NAVPGSCHOLINST 3750.1 and reference 13-3.

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Chapter 13
References

- 13-1. DODI 6055.07 of 6 Jun 11, Mishap Notification, Investigation, Reporting and Record Keeping,
<http://www.dtic.mil/whs/directives/corres/pdf/605507p.pdf>.
- 13-2. OPNAVINST 5102.1D/MCO P5102.1B, w/Chg 2 of 7 Jan 05, Navy and Marine Corps Mishap and Safety Investigation, Reporting, and Record Keeping,
<http://doni.daps.dla.mil/Directives/05000%20General%20Management%20Security%20and%20Safety%20Services/05-100%20Safety%20and%20Occupational%20Health%20Services/5102.1D%20w%20CH-2.pdf>
- 13-3. OPNAVINST 3750.6R, w/Chg 4 of Mar 01, Naval Aviation Safety Program,
<http://doni.daps.dla.mil/Directives/03000%20Naval%20Operations%20and%20Readiness/03-700%20Flight%20and%20Air%20Space%20Support%20Services/3750.6R.pdf>.
- 13-4. OPNAVINST 5100.23 series, current change and revision, NAVY SAFETY AND OCCUPATIONAL HEALTH PROGRAM,
<http://doni.daps.dla.mil/OPNAV.aspx?RootFolder=%2fDirectives%2f05000%20General%20Management%20Security%20and%20Safety%20Services%2f05%2d100%20Safety%20and%20Occupational%20Health%20Services&View=%7bDEF0EB11%2d3785%2d4F67%2dB5A1%2dAE9F8EB752BC%7d>

CHAPTER 14
RESPIRATORY PROTECTION

1401. Discussion

a. Naval Postgraduate School (NPS) has made a commitment to establish and maintain a respiratory protection program for the protection of employees where respirators are used:

- (1) as an interim measure until proper engineering controls can be installed;
- (2) where engineering controls are not feasible;
- (3) where emergency respirators are required; and
- (4) where respiratory protection must be worn in addition to engineering controls.

b. The respiratory protection program will include written Standard Operating Procedures (SOPs) for each program element, including hazard assessment; respirator selection and issue; cartridge change out schedules; fit testing; medical surveillance; equipment cleaning, storage, inspection, and maintenance; and program evaluation.

c. Standard Operating Procedures shall be developed for the specific respiratory protection requirements of each workplace. Workplace SOPs will be posted in the work areas and will include applicable attachments, which include: a summary of the command respiratory protection program standard operating procedures; shop specific details concerning respirator selection, maintenance and inspection procedures; breathing-air quality, if applicable; emergency use respirators and respirator cartridge change out schedules.

1402. Applicability

a. The provisions of this chapter and references shall apply where NPS civilian employees and military personnel are required to wear respiratory protection equipment due to the nature of their work or job.

b. The provisions of this chapter do not apply to:

- (1) Contractors. They are responsible for providing their own respiratory protection programs and respiratory

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protective equipment per reference 14-1.

(2) Personnel wearing respiratory protection for the sole purpose of protection against airborne radioactive contamination associated with the Naval Nuclear Propulsion Program, which is governed by reference 14-7.

1403. Responsibilities

a. NPS President. The NPS President is responsible for establishing a respiratory protection program and appointing a qualified respiratory protection program manager (RPPM).

b. Respiratory Protection Program Manager (RPPM). The RPPM must complete a training course as specified in reference 14-2, Respiratory Protection.

(1) The responsibility for administration of this program rests with the respiratory protection program manager.

(2) The specific duties of the program manager include, but are not limited to:

(a) Selecting approved respiratory protection based on industrial hygiene survey reports, references 14-1, 14-2, 14-3, and available literature for departmental purchase.

(b) Develop respirator cartridge change out schedules.

(c) Training personnel in the proper use, limitations and maintenance of respirators.

(d) Conducting respirator fit testing.

(e) Developing procedures for regular cleaning and inspection.

(f) Designating appropriate storage locations and procedures.

(g) Developing procedures for inventory control.

(h) Annual evaluation (audit) and modification of the written respirator program and standard operating procedures.

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c. Shop Supervisors and Principle Investigators (PIs). Shop supervisors and PIs must have a thorough understanding of every aspect of the command SOP and should be familiar with the requirements found in reference 14-2. They shall ensure that:

(1) Respirators are properly worn and maintained by shop/lab personnel where/when required.

(2) A copy of the workspace SOP is kept in each shop/lab and/or office.

(3) Shop Supervisors and PIs are responsible for informing their students and employees that training is required to use a respirator.

(4) They are required to maintain and display an Authorized Users List (AUL) for each of their spaces which contain respirators.

(5) Conducting fitment testing for all subordinate personnel.

d. Employees. Employees are responsible for inspecting their respirators and notifying the RPPM of any defects. Each employee must perform positive and negative user seal checks on tight fitting respirators before each use.

e. Bureau of Medicine (BUMED) Servicing Industrial Hygienist (IH) should provide the following services:

(1) Perform periodic industrial hygiene survey according to reference 14-2 to identify any workplace hazards, recommending any appropriate protection measures, such as respiratory protection.

(2) Provide the RPPM with a written evaluation of the effectiveness of the respirator program at the time of the periodic industrial survey.

(3) Notify workspace owners/PI's of any workspace requirement for medical surveillance.

1404. Types of Respirators

The three basic types of respirators are air purifying, supplied-air, and self-contained. Personnel sometimes group supplied-air respirators and self-contained breathing

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apparatuses together as atmospheric supplying respirators. This manual lists them separately for clarity.

a. Air-Purifying Respirator. These respirators account for the vast majority of respirators used at NPS. They remove air contaminants by filtering, absorbing, adsorbing, or chemically reacting with the contaminants as they pass through the respirator canister or cartridge. The most commonly used example of this category would be disposable dust masks. Personnel shall only use this respirator where adequate oxygen (19.5 to 23.5 percent by volume) is available. This category also includes battery-powered air purifying respirators.

NOTE:

Authorization for military gas masks, such as the MCU-2A/P, is only for chemical, biological, and radiological (CBR) warfare, CBR warfare training, and nuclear accidents when used according to DOD 3140.8M of 22 February 2005.

b. Supplied-Air Respirators. These respirators provide breathing air independent of the environment. Personnel shall use these respirators in place of chemical cartridge, air purifying respirators when:

(1) A cartridge change out schedule has not been established and implemented;

(2) There are no appropriate end-of-service life indicator respirators; or

(3) The contaminant is of such high concentration or toxicity that an air-purifying respirator is inadequate.

c. Self-Contained Breathing Apparatus (SCBA). This type of respirator allows the user complete independence from a fixed source of air and offers the greatest degree of protection but is also the most complex. Training and practice in its use and maintenance is essential.

(1) The Navy oxygen breathing apparatus (OBA) is a uniquely designed SCBA. Its only authorized use is for damage control, firefighting operations aboard ships, and during firefighting training ashore.

(2) Wearing SCBAs, including the OBA, during shipboard firefighting or other emergencies, including ashore training for

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these emergencies, is military-unique. Therefore, fit-testing and medical surveillance are not required prior to wearing SCBA for these scenarios.

1405. Purchasing Respirators

Respirators may be purchased through Kuali Financial System (KFS) by any employee who has the proper permissions to use the system. It is the responsibility of the individual requesting the equipment to first contact the NPS Occupational Safety, Health, and Environmental (OSHE) Directorate or the RPPM prior to purchase so they may assist in the selection of the proper respirator. Only respirators jointly approved by the National Institute for Occupational Safety and Health (NIOSH) or the Mine Safety and Health Administration (MSHA) may be worn.

Note:

Respirators (including dust masks) that do not meet the proper approval requirements described above are not authorized for use in any NPS spaces.

1406. Respiratory Protection Training

Training is required for all employees or students that use respirators, their supervisors, persons issuing respirators, and emergency response teams to ensure proper respiratory use. Training is required annually, and conducted at the time of respirator fit testing by the Respiratory Protection Manager, qualified supervisor, or PI. All training material is available via ESAMS.

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- 14-1. 29 CFR 1910.134, Occupational Safety and Health Administration Respiratory Protection Standard
- 14-2. OPNAVINST 5100.23 (series), Navy Occupational Safety and Health (NAVOSH) Program Manual, Chapter 14 Respiratory Protection
- 14-3. NAVMCPUBHLTHCEN Technical Manual, Industrial Hygiene Field Operations Manual, latest revision
- 14-4. NAVMCPUBHLTHCEN Technical Manual OM 6260, Occupational Medical Surveillance Procedures Manual and Medical Matrix, latest edition
- 14-5. BUMED Notice 6110, Tracking and Reporting Individual Medical Readiness Data
- 14-6. American National Standards Institute (ANSI), z88.2-1662, American National Standard, Practices for Respiratory Protection, (NOTAL), <http://aiha.org>
- 14-7. NAVSEA 389-0288, Radiological Controls

CHAPTER 15
OCCUPATIONAL SAFETY AND HEALTH STANDARDS

1501. Discussion

a. The Naval Postgraduate School (NPS) President has established procedures for the development and implementation of NPS occupational safety and health (OSH) standards. Additionally, NPS must comply with the standards issued for the private sector by the Secretary of Labor, under section 6 of the Occupational Safety and Health Act (OSH Act).

b. The Department of Defense (DoD) and Navy follow the Occupational Safety and Health Administration (OSHA) standards; however, reference 15-1 contains provisions for alternates to the OSHA standards, supplemental standards, other special standards and exceptions for military unique equipment, systems and operations.

c. This chapter provides guidance and direction for the development and application of standards within NPS Occupational Health, Safety and Environmental (OSHE) programs.

1502. OSH Standards

OSH standards consist of the following:

a. OSH standards include national consensus and proprietary standards referenced in the instructions. NPS instructions based on OSHA standards may simply refer to a specific OSHA standard (e.g., 29 CFR 1910.95) or may paraphrase, transpose, or otherwise adopt the standard without altering the basic criteria (unless the alteration applies to more stringent criteria, such as lower exposure limits, increased monitoring frequency, etc.). Current NPS instructions may also refer to, or adopt the latest edition of an OSHA referenced standard.

b. OSHA standards, including emergency temporary standards are issued by OSHA under the provisions of the OSH Act. This includes national consensus standards specifically referred to in OSHA standards.

NOTE:

When both the Navy and OSHA have standards applicable to a given situation, NPS shall use the more stringent of the two.

c. Navy occupational exposure limits (OEL) for chemical contaminants that include:

(1) 1989 OSHA permissible exposure limits (PELs) found in reference 15-3.

(2) Substance specific regulations issued by OSHA under section 6(b) of the OSH Act of 1970; and

(3) Navy developed standards. When there is no OSHA PEL or Navy developed standard, the American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit value (TLV) shall be used as the NPS OEL. When the OEL is based on a limit derived from the OSHA Z-1, Z-2 or Z-3 tables, reports of data shall include the ACGIH TLV as additional guidance.

d. Alternate OSHA standards that the Deputy Under Secretary of Defense (Installations and Environment) (DUSD(I&E)) authorizes, subject to Department of Labor (DOL) approval.

e. Special DoD or Navy standards, rules and regulations or technical publications that govern the on-the-job safety and health applicable to military unique equipment, systems and operations.

f. Nationally recognized sources of OSH guidance (such as the ACGIH, the American National Standards Institute (ANSI) and the National Fire Protection Association (NFPA)) will be used when there is no OPNAV instruction or OSHA standard.

NOTE:

National Institute for Occupational Safety and Health (NIOSH) criteria documents are proposals only and not mandatory unless adopted by one of the sources listed above.

1503. Alternate Standard Approval

OSHA alternate standards should only be considered when compliance with an OSHA standard cannot be achieved, an alternate standard will be at least equally protective. All requests for alternate standards will be routed for approval as outlined in reference 15-4 paragraph 1503.

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1504. Application

NPS shall apply OSH standards in all its workplaces, worldwide, with the following exceptions:

a. In the case of uniquely military equipment, systems and operations, NPS shall apply Navy rules and regulations consisting of specialized standards, specifications and procedures to minimize hazards and prevent mishaps. The Navy shall review and strengthen these special rules and regulations continuously, and include appropriate provisions of the OSH standards consistent with military design configuration and the requirement to develop and maintain combat capability.

b. Certain operations are subject to mandatory safety standards or rules derived from separate or specific statutory authority (e.g., explosive safety standards issued under the authority of section 172 (1970) of title 10, U.S.C., and Nuclear Safety and Health Standards issued under the authority of sections 2012, 2021, 2121(b), and 2201(b) (1976) of title 42, U.S.C.). Provided there is no substantive conflict, the application of these special functional standards does not exempt any workplace from other OSH standards that address conditions not specifically covered by the special rules. For example, a naval weapons station is subject to special explosive safety standards and is also subject to OSH standards for machine guarding, eye protection, etc.

c. In overseas workplaces, where status of forces agreements specify different standards, those standards take precedence, subject to the same limiting rationale set forth in paragraph 1504b.

d. Where personnel of different DoD components, or of DoD components and other Federal agencies work in the same installations, host-agency standards shall govern the DoD components and other Federal agencies involved. When other agency standards conflict with OSHA standards, DoD components shall refer the matter to DUSD(I&E).

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References

15-1. DoD Instruction 6055.1, DoD Occupational Safety and Health Program, of 19 Aug 1998
http://www.dtic.mil/whs/directives/corres/pdf/i60551_081998/i60551p.pdf.

15-2. OPNAVINST 5100.19E, Navy Safety and Occupational Safety (SOH) Program Manual for Forces Afloat, of 30 May 2007
<http://doni.daps.dla.mil/OPNAV.aspx>.

15-3. Industrial Hygiene Field Operations Manual, NEHC Technical Manual, NEHC-TM6290.91-2, of Mar 2009
http://www.nmcphc.med.navy.mil/occupational_health/industrial_hygiene/ih_fieldops_manual.aspx.

15-4. OPNAVINST 5100.23 series, current change and revision, NAVY SAFETY AND OCCUPATIONAL HEALTH PROGRAM,
<http://doni.daps.dla.mil/OPNAV.aspx?RootFolder=%2fDirectives%2f0500%20General%20Management%20Security%20and%20Safety%20Services%2f05%2d100%20Safety%20and%20Occupational%20Health%20Services&View=%7bDEF0EB11%2d3785%2d4F67%2dB5A1%2dAE9F8EB752BC%7d>

CHAPTER 16
ASBESTOS CONTROL

1601. Discussion

The primary objective of this chapter is to provide guidance to Naval Postgraduate School (NPS) civilian and military personnel on personal protection within all NPS spaces from harmful exposures to airborne asbestos fibers through:

- a. Periodic inspection of all asbestos materials;
- b. Operations and maintenance activities that repair, encapsulate, or remove asbestos containing material;
- c. Documentation and notification of asbestos-related activities; and
- d. Strict compliance with this instruction and all other applicable federal, state, and local laws and regulations.

1602. Applicability

- a. The provisions of this chapter and references shall apply to all NPS Civilian employees and Military Personnel.
- b. The provisions of this chapter do not apply to contractors. They are responsible for providing their own asbestos protection programs and protective equipment per reference 16-1.

1603. Responsibilities

The following responsibilities are described to provide an effective asbestos exposure control program at NPS.

- a. NPS OSHE Directorate is responsible to:
 - (1) Ensure that asbestos containing materials are not procured or specified when a suitable substitute exists.
 - (2) Provide advice and technical assistance, in coordination with BUMED, to define appropriate engineering and work practice controls, and identify acceptable non-asbestos-containing substitute materials.

b. Commander Navy Region South West (COMNAVREGSW) and Naval Support Activity Monterey (NSAM). As per reference 16-3, COMNAVREGSW and NSAM are responsible for providing the following services:

(1) Regional and Installation Safety Managers are responsible for Navy occupational safety and health compliance related to all asbestos work. Safety managers, working in coordination with Navy or contractor industrial hygiene professionals, shall take all necessary steps to prevent worker asbestos exposure issues, including personal or area air sampling for friable asbestos.

(2) Safety managers are assigned overall responsibility for Navy asbestos worker protection involving all regulatory issues on asbestos worker exposure including personal or area air sampling for friable asbestos at regional and installation levels.

(3) Safety managers will work closely with the designated respiratory protection program manager. The respiratory protection program manager will implement written policies and procedures per reference 16-2 including implementation of proper medical surveillance program requirements.

c. COMNAVREGSW and NSAM Environmental Departments. Unless otherwise designated in writing by COMNAVREGSW or NSAM, the NSAM environmental department is the lead in all regulatory matters involving the collection, storage, transportation and disposal of government-generated asbestos-containing waste material (ACWM). The NSAM Environmental department coordinates disposal and provides regulatory support, oversight and direction, but does not fund disposal costs. For government generated ACM, Facilities fund the disposal and perform the ACM handling and disposal. For ACM generated during contractor projects, the project funds the disposal, and the contractor performs ACM handling and disposal. The environmental department will perform Environmental Quality Assessments of the Asbestos management Program to ensure compliance with National Emissions Standards for Hazardous Air Pollutants (NESHAP) requirements. Additionally, the environmental department will provide regulatory interface between the installation and federal, state, and local environmental agencies with respect to asbestos containing waste material. Preparation of federally mandated National Environmental Policy Act (NEPA) documentation prior to construction contract award for all proposed projects on Navy

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installations including any activity involving known or presumed contact with asbestos material that may generate asbestos containing waste. Simple Categorical Exclusion (CATEX) NEPA documents may be prepared by the Facilities' Program.

d. Naval Facilities Engineering Command (NAVFAC). A representative from NAVFAC will serve as the asbestos program manager. The asbestos program manager shall work closely with installation safety and environmental departments to ensure compliance with all applicable asbestos regulations. Asbestos program manager responsibilities shall include serving as lead for:

(1) Implementation of the asbestos operation and maintenance plan and principal point of contact for completion of federal, state, and local laws and compliance requirements for documentation and notification of all asbestos-related activities.

(2) Completion of building surveys to determine if ACM or presumed asbestos containing materials (PACM) are present anywhere in a building, and if so, determine the location, square footage and type of asbestos present from bulk sampling of ACM or PACM. Specific responsibility for such surveys is to ensure that the required determination for the presence of friable and non-friable ACM or the presence of PACM is completed before any demolition; repair or renovation work is done.

e. Contractors. Contractors are responsible for the supervision of contractor asbestos removal personnel in accordance references 16-1, 16-2, and 16-3.

1604. Asbestos Training

a. Asbestos Awareness: All NPS personnel shall have a basic understanding as to how Asbestos Containing Building Materials (ACBM) are labeled, potential health effects associated with exposures to asbestos, how to report suspected problems with asbestos, and where asbestos may be found in the workplace.

(1) Asbestos Awareness training shall be provided to the general NPS population via ESAMS as part of the electronic monthly safety training topic delivered in February.

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b. Class IV Asbestos Work: Annual refresher training shall be provided to all personnel engaged in maintenance and custodial activities during which employees contact but do not disturb Asbestos Containing Materials (ACM). Such training shall be provided by ESAMS.

c. Class I,II,III Asbestos Work: Annual refresher training shall be provided to those NPS personnel that are routinely engaged in the removal, maintenance, and repair of all ACM (pipe insulation, sprayed-on acoustical, floor tile sheetrock, roofing, etc...). Such training shall be provided by NSAM Public Works (PW).

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References

- 16-1. Title 29 Code of Federal Regulations (CFR) section 1910.1001, OSHA Asbestos Standard, latest revision,
http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARD&p_id=9995.
- 16-2. OPNAVINST 5100.23 (series), Navy Occupational Safety and Health (NAVOSH) Program Manual, Chapter 16 Asbestos Control
- 16-3. CNICINST 5100.1 Asbestos Management Program

CHAPTER 17
NOISE ABATEMENT AND HEARING CONSERVATION

1701. Discussion

a. Noise injury, both ashore and afloat, is a continuing concern within the Department of the Navy. The goal of the NPS Noise Abatement (NA) and Hearing Conservation (HC) Programs (NAHCP) are twofold-- reduce hazardous noise sources through acquisition and engineering controls, and ensure auditory fitness for duty in NPS personnel in accordance with (IAW) references 17-1 through 17-29.

1702. Exposure Limits

a. Occupational Exposure Limit (OEL). The following section gives the OEL for occupational exposure to noise IAW references 17-1 and 17-4.

(1) For an 8-hour time-weighted average, the OEL is 85 decibels on the A-weighted scale (dBA).

(2) For impact or impulse noise, the OEL is 140 decibels peak (dBP) sound pressure level.

(3) Work environments where ultrasound is produced and hearing protection is not already used shall conform to the ultrasound exposure limits set forth in reference 17-1.

b. Noise Abatement. The NPS program shall include implementation of noise assessment and engineering control measures through the systems engineering and systems safety process IAW reference 17-11 and paragraph 1705 (below) when:

(1) Legacy systems have measured noise exposure concerns as indicated by personnel exposures at or above 85 dBA or 140 dBP;

(2) New systems are considered likely to create noise exposures at or above 85 dBA or 140 dBP; or

(3) Communication is anticipated to be potentially impaired by background noise caused by new equipment.

c. Navy's Hearing Conservation Program. This shall be implemented when personnel are occupationally exposed to:

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(1) Continuous and intermittent noise that has an 8-hour time-weighted average noise level of 85 dBA or greater;

(2) Impulse or impact noise sound pressure levels of 140 dBP or greater;

(3) Ultrasonic exposures (that occur under special circumstances requiring specific measurement and hazard assessment calculations, IAW reference 17-1).

1703. Sound Pressure Level and Octave Band Level Measurements and Exposure Assessments

a. Sound Levels. To effectively control sound levels, it is necessary to accurately measure sound pressure levels IAW reference 17-4. Measurement of the environment's sound levels is also necessary to identify unacceptable levels and personnel at risk, IAW references 17-3 and 17-4. Aboard Naval Postgraduate School (NPS), the BUMED assigned Industrial Hygienist (Servicing IH) shall conduct noise surveys.

b. Employee Notification of Monitoring Results. IAW reference 17-28, the servicing IH shall notify each workspace owner that personnel in a specific space have been, or may be exposed to an 8-hour time-weighted average of 85 dBA or greater of the results of the monitoring.

1704. Labeling of Hazardous Noise Areas and Equipment

a. All potentially hazardous noise areas must be clearly identified by signs located at their entrances or boundaries. The servicing IH shall determine which NPS workspaces contain "Hazardous Noise Areas or Processes" and shall inform the workspace owner. The workspace owner is responsible for ensuring the workspace or equipment is properly designated by physical markers (ie signage or flashing light etc...), as well as properly annotated in the ESAMS etracker database. The designation of hazardous noise areas and equipment will be based on the following criteria:

(1) Any work area or equipment where the sound pressure level (continuous or intermittent) is 85 dBA or greater;

(2) Any work area or equipment where the sound pressure level (impulse or impact) is 140 dBP or greater;

b. Areas or equipment where the sound pressure levels are

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at least 85 dBA, but less than 96 dBA, shall be labeled and shall require the use of single hearing protection (approved ear plugs or circumaural muffs) that attenuates worker noise exposure to below an 8-hour time-weighted average of 85 dBA.

c. Areas or equipment where the sound pressure levels are 96 dBA-- i.e., the effective field derated upper limit of most plugs or muffs-- or greater shall be labeled and shall require the use of double hearing protection (approved ear plugs and circumaural muffs) that attenuates worker noise exposure to below an 8-hour time-weighted average of 85 dBA.

d. Areas or equipment where the sound pressure levels are at least 140 dBP, but less than 165 dBP, shall be labeled and shall require the use of single hearing protection that attenuates worker noise exposure to below 140 dBP.

e. Areas or equipment where the sound pressure levels are 165 dBP or greater shall be labeled and shall require the use of double hearing protection that attenuates worker noise exposure to below 140 dBP.

f. Each tool or piece of equipment (including vehicles) producing noise levels of 85 dBA or greater shall be conspicuously marked to alert personnel of the potential hazard. The exception shall be when an entire space is designated as a hazardous noise area and the equipment is stationary. Exteriors, but not interiors, of military combatant equipment are excluded from this requirement. Professional judgment and discretion shall be exercised when labeling tools and equipment.

1705. Noise Abatement and Engineering Controls

a. Engineering controls shall be the primary choice for eliminating personnel exposure to potentially hazardous noise, IAW references 17-4, 17-5, 17-6, 17-7, and 17-8. Noise generation, personnel exposures, and signal control shall be considered in the context of life-cycle risk management and combat capability. It is less costly to eliminate potential noise problems in the design or procurement stage for new processes, equipment, and facilities (IAW references 17-9, 17-11 17-17, and 17-20) than it is to make retrofits or modifications.

b. When procuring new tools and equipment for purchase, one shall "buy quiet" (IAW references 17-17 and 17-27). That is, those items with the lowest sound emission levels which are

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technologically and economically feasible and compatible with performance and environmental requirements shall be obtained.

c. Administrative controls-- i.e., limiting times of exposure or enforcing safe stay times-- shall be the secondary choice for eliminating personnel exposure to potentially hazardous noise. Administrative controls (i.e., the adjustment of work schedules to limit exposure) are effective only under strict supervisory control and in consultation with the servicing IH, or occupational audiology personnel. Use of personal protective equipment (ear plugs, muffs, etc.) shall be a temporary or last resort solution, and shall be used only after noise studies have determined engineering or administrative controls are not feasible.

1706. Training and Education

a. Supervisors and managers of personnel in noise hazardous areas shall, via ESAMS online training, receive training on their role in preserving the mission's hearing readiness. Elements of this education should include: responsibility to support effective noise control by enforcement, design, and engineering controls; and knowledge of operational impacts of hearing impairment and miscommunications.

b. Personnel exposed to hazardous noise, their supervisors, and people providing hearing conservation services (such as testing, training, monitoring, hearing protection, etc.) must receive training. Initial training will be provided via ESAMS prior to assignment to duty in a designated noise hazardous environment.

c. All personnel routinely working in designated hazardous noise areas shall receive annual training on:

- (1) The impact of hazardous noise on the hearing system;
- (2) The purpose of hearing protection;
- (3) The advantages, disadvantages, and levels of attenuation of various hearing protectors;
- (4) The selection, fit, use, and care of personal hearing protective devices;
- (5) Mandatory requirements, and administrative actions

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for failure, to wear hearing protective devices;

(6) The purpose of audiometric testing;

(7) Audiometric test procedures;

(8) The personal and professional impact of hearing loss; and

(9) Hearing protective device use during off-duty activities.

d. All personnel routinely working in designated hazardous noise areas shall be able to demonstrate a proper fitting technique for hearing protective devices.

e. Effective training requires personal attention to the fitting of hearing protective devices and user feedback related to the comfort and effectiveness of varied products. Education must also reach management and engineering personnel to address the responsibility and technical feasibility of managing operational risk related to hearing loss and of providing noise control. Aboard NPS, all feedback or suggestions relating to Occupational Safety, Health, and Environmental (OSHE) matters should be directed to the NPS OSHE Director.

1707. Auditory Fitness for Duty and Audiometric Testing

a. Hearing Tests and Medical Evaluation. Entry of personnel into a Hearing Conservation Program (HCP) will be based on the results of the industrial hygiene exposure assessment and relevant criteria found in reference 17-3. Individuals that meet the criteria for exposure intensity and frequency are considered at risk and must be included in audiometric testing. The industrial hygiene survey identifies tasks, processes, operations, or similar exposure groups, where exposures are unacceptable.

b. Hearing Tests. The U. S. Army Health Clinic at the U.S. Army Presidio of Monterey, California, (Health Clinic at Monterey Presidio) shall conduct periodic hearing tests and provide results that will allow the NPS OSHE Directorate to monitor the effectiveness of the HCP, IAW reference 17-3.

c. Extreme Pre-Existing Hearing Loss. Personnel with pre-existing hearing loss that exceeds enlistment/employment standards and/or with a demonstrated increased susceptibility to

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noise-induced hearing loss may be excluded from occupations with noise exposure above the occupational exposure limits. Occupational audiologists and occupational medical physicians shall make this decision, since such a determination may have an adverse impact on the member's employment. Detailed criteria and waiver processes are defined IAW reference 17-3.

d. Evaluations. Individuals in the HCP exceeding criteria defined IAW reference 17-3 may also require an "Audiometric Fitness for Duty" evaluation. To avoid patient fatigue, this supplemental evaluation shall occur during an appointment subsequent from the occupational audiological evaluation.

e. Disposition. Hearing loss with a suspected medical cause is routed through the appropriate referral process IAW reference 17-3. Proactive detection of temporary threshold shifts facilitates early intervention before permanent or further hearing damage occurs.

(1) Significant Threshold Shifts (STS) and Occupational Safety and Health Administration (OSHA) Recordable Hearing Loss are defined in reference 17-3. Personnel demonstrating STS that remains unresolved after appropriate auditory rest shall be notified along with their supervisor and the NPS OSHE Directorate immediately.

(2) A change of 15 decibels or greater in either ear will be considered an early warning of future STS. Verbal counseling by the individual's supervisor and validation by the NPS OSHE Directorate that appropriate hearing protective devices are available and correctly used is required. However, follow-up testing will not be required.

(3) STSs are considered OSHA recordable unless an audiologist, otologist, or occupational medical physician determines the shift toward deteriorated hearing is not permanent, is not consistent with an occupational origin, or does not exceed an average of 25 decibels or more above audiometric zero.

(4) The individual, his or her supervisor, and the NPS OSHE Directorate shall be notified by the Health Clinic at Monterey Presidio when either an STS or an OSHA recordable STS occurs.

f. Termination Hearing Test. All military personnel, regardless of enrollment in the HCP, shall receive a termination

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hearing test within 90 days before military separation. Civilians enrolled in the HCP shall receive a termination hearing test prior to separation from NPS or transfer to a non-noise hazardous position.

1708. Hearing Protective Devices

a. Hearing Protective Devices (HPDs) are considered an interim protective measure while installing engineering control measures. HPDs shall constitute a permanent measure only if engineering controls are not technologically, economically, or operationally feasible. The HPD provided must be capable of attenuating worker noise exposure to or less than an 8-hour time-weighted average of 85 dBA. Additional guidance is available from an occupational audiologist, safety specialist, or industrial hygienist.

b. HPDs shall always be available at no cost to personnel entering designated hazardous noise areas. When hazardous noise sources are operating, personnel shall wear HPDs regardless of exposure time. IAW Appendix 17-A, HPD attenuation shall be evaluated by a BUMED industrial hygienist or audiologist for the specific noise environments in which the protector will be used.

c. Single HPDs shall be worn by all personnel when they enter or work in an area where the operations generate:

(1) Sound levels between 85 and 96 dBA. In cases where hearing protection devices alone do not provide sufficient attenuation to reduce the employee's effective exposure to an 8-hour time-weighted average of 85 dBA or less, administrative control of exposure time will be necessary.

(2) Sound levels between 140 dBP SPL and less than 165 dBP. Examples are weapons fire, electrical arc flash hazards, etc. All personnel exposed under any circumstances to simulated combat sounds (gunfire, artillery or missile firing) or live fire operational training shall wear HPDs and be included in the Hearing Conservation Program.

d. Appendix 17-B contains a graph of noise exposure limits, as well as formulae for calculating those limits.

e. Double hearing protection (a combination of insert and circumaural types, or insert and helmet) shall be worn when sound levels exceed 100 dBA steady state or 165 dBP or greater, unless an occupational audiologist, industrial hygienist, or

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occupational medical physician has determined that single protection is adequate for the anticipated duration of exposure.

f. Use of custom earplugs is authorized. Only audiologists, otolaryngologists, and medical providers professionally trained in ear impression techniques may take impressions of the ear necessary to make the custom earplugs. Medical personnel trained to fit preformed and custom earplugs must examine at least annually the fit and condition of preformed and custom earplugs. As with all personal protective equipment, cost is the responsibility of the respective NPS department.

g. Preformed sized earplugs shall be fitted and issued only under the supervision of personnel specifically trained to fit earplugs. Designated "Noise Hazard" workspace or process owners shall ensure proper initial fitting and supervise the correct use of HPDs by their subordinates working or operating in the hazard area. Appendix 17-A contains information on hearing protection devices and selection criteria. The Navy and Marine Corps Public Health Center (NMCPHC) website (<http://www.nmcphc.med.navy.mil/>) identifies guidance and links to sites with additional information on selecting HPDs that have been tested for attenuation under American National Standards Institute (ANSI) requirements. Consult an occupational audiologist or industrial hygienist for specifics i.a.w. references 17-1, 17-3, and 17-4.

h. Any NPS department that owns or operates in workspaces containing hazardous noise areas and activities, shall maintain an adequate, readily accessible supply of hearing protection with appropriate Noise Reduction Ratings in work areas and passageways leading to high noise areas. Supplies shall include all sizes of approved preformed earplugs, as well as an adequate supply of disposable earplugs and noise muffs. HPDs shall be replaced as necessary whenever they become dirty or damaged.

i. The use of portable music players with headphones (such as radios, CD players, MP3 players, cellular phones, etc.) is prohibited in industrial areas and in work areas where high noise hazards have been identified.

j. Hearing aids may not be used in conjunction with or in place of Hearing Protective Devices except as approved on a case-by-case basis by an audiologist or otolaryngologist.

k. As with other personal protective equipment under consideration for purchase, new Hearing Protective Device products must be referred to the Navy Protective Clothing Board for approval, IAW reference 17-22.

1709. Record Keeping

a. Both the NPS OSHE Directorate and the servicing IH shall maintain records of industrial hygiene surveys identifying noise hazardous operations, equipment, and areas, as well as rosters of all personnel assigned to use tools, or work in areas, identified as noise hazardous, IAW reference 17-1 and this chapter.

b. The NPS OSHE Directorate shall maintain OSHA 300 logs for civilian personnel and an equivalent log for exposed military personnel whenever personnel are reported by a medical treatment facility to have experienced Significant or Permanent Threshold Shifts.

c. All hearing conservation audiometric testing data and notifications of Significant or Permanent Threshold Shifts shall be maintained by the Health Clinic at Monterey Presidio, IAW references 17-3, 17-13, 17-14, 17-27, and 17-28.

1710. Program Performance Evaluation

a. While NPS contains spaces or processes having noise hazards and/or personnel enrolled in a Hearing Conservation Program, the servicing IH shall evaluate the program's effectiveness annually through examination of program performance metrics IAW reference 17-1 and Appendix 17-C. Further, the NPS OSHE Directorate shall implement steps to mitigate program weaknesses and shortfalls.

1711. Responsibilities

a. NPS shall, in addition to complying with sections 1702-1710, ensure personnel routinely working in hazardous noise areas and/or using noise hazardous equipment are included in the Hearing Conservation Program and receive: initial and annual training; baseline and annual audiometric tests (i.e., medical surveillance); follow-up and diagnostic evaluations (as required). NPS shall also ensure that personnel are issued, fitted, and instructed by trained personnel on how to correctly wear hearing protective devices. NPS supervisors shall enforce the NAHCP policy, including taking disciplinary measures for

failure to comply with Hearing Conservation Program requirements. The actions to be undertaken by NPS include:

(1) The NPS OSHE Directorate shall:

(a) Using the baseline and/or current industrial hygiene surveys to identify hazardous noise areas and equipment. The industrial hygiene survey reports may be used by the NPS Directorate as the current inventory of all potentially hazardous noise areas and operations. This inventory shall be available to supervisors and employees. It shall also at a minimum identify noise levels, industrial hygienist assigned Risk Assessment Codes, and the types of control measures employed. Workspace Owners, their supervisors, or department chairs shall designate hazardous noise areas and equipment in ESAMS' etracker and IAW the baseline and/or current industrial hygiene survey.

(b) Forwarding semi-annually to the Health Clinic at Monterey Presidio the total number of enrollees. Command compliance shall be evaluated locally during annual self assessments, and all technical assist visits shall be evaluated by regional or local Hearing Conservation subject matter experts.

(c) Assisting the NPS OSHE Directorate in monitoring program effectiveness, the Health Clinic at Monterey Presidio shall annually provide trending, recommendations for improvements, and identification of weaknesses to the NPS OSHE Directorate.

(2) NPS Workspace Owners shall:

Ensure that equipment and/or power tools are individually and permanently stenciled (painted) or engraved with the words "Produces Hazardous Noise."

(a) Label designated hazardous noise areas and equipment that produce sound levels of at least 85 dBA or 140 dBP sound pressure levels.

(b) Ensure that the option of using additional means to alert employees to noise hazardous operations is available. These may include posting barriers or using flashing lights to indicate hazardous noise conditions.

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(3) NPS Departments Chairs shall:

(a) Issue personal Hearing Protective Devices at no cost to all personnel working or training in hazardous noise environments and in operational settings.

(b) Use administrative controls or rotation of employees under strict supervisory control, in consultation with NPS OSHE Directorate personnel, the servicing IH, or occupational audiology personnel as an acceptable alternative means of reducing noise exposure when engineering controls are not feasible. As well as provide personal Hearing Protective Devices and ensure proper usage by personnel where administrative or engineering controls are not feasible or effective.

(c) Undertaking the abatement of hazardous noise levels to the extent possible or practicable, IAW paragraph 1705. Subject matter experts such as acoustic engineers or industrial hygienists should be consulted for guidance.

(d) Conducting engineering control feasibility studies for those areas where continuous noise levels exceed 100 dBA and personnel, even though protected by Hearing Protective Devices, are exposed for 4 hours or more.

b. The NPS OSHE Directorate is responsible for establishing and maintaining a roster of all personnel enrolled in its NAHCP. Workspace Owners and/or Supervisors using the baseline and/or current periodic industrial hygiene surveys shall identify individuals assigned to operations of hazardous noise. The NPS OSHE Directorate shall maintain a comprehensive roster of enrolled personnel IAW reference 17-1 and Appendix 17-C and shall update it every six months (or more frequently, as changes occur among personnel). NPS rosters shall be monitored and used by both the Health Clinic at Monterey Presidio and the NPS OSHE Directorate to ensure personnel are trained and tested IAW the Hearing Conservation Program.

c. NPS should request and document training provided by hearing conservation subject matter experts, such as occupational audiologists, occupational medical physicians, occupational nurses, industrial hygiene specialists, or safety specialists, IAW chapter 5 of this instruction. Currently all hearing conservation training for NPS personnel is provided via ESAMS.

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d. Bearing in mind that paragraph 1702 outlines the criteria used to determine the degree of compliance with applicable standards, BUMED will:

(1) Direct that the industrial hygienist or occupational audiologist assess the adequacy of Hearing Protection Devices when they are used in very high noise environments or for extended exposure periods, IAW reference 17-3.

(2) Train individuals to fit preformed earplugs.

(3) Annually provide NPS with: rates of compliance with audiogram appointments and no shows; numbers of personnel receiving training; periodic medical monitoring; and the rate of hearing loss (temporary and permanent threshold shifts).

(4) Annually provide NPS with trends and rates of hearing loss improvements or weaknesses.

(5) Direct that the servicing IH shall ensure identification and monitoring for ototoxic chemicals present in hazardous noise areas, IAW reference 17-13.

(6) Ensure that work environments or equipment found to have sound pressure levels of at least 85 dBA (continuous or intermittent) or 140 dBp (impact or impulse noise) be analyzed to determine the potential hazard and be resurveyed within 30 days of any significant modifications or changes in work routine which could impact or alter the noise intensity and exposure level.

(7) Ensure that noise exposure assessments be recorded in Defense Occupational and Environmental Health Surveillance System - Industrial Hygiene (DOEHRS-IH) and conducted IAW references 17-1 and 17-4 for all personnel routinely working in hazardous noise areas and performing hazardous noise operations. The exposure assessment will identify which work areas, processes, and equipment produce unacceptable levels of noise, determine the type of hearing protection necessary (single or double), and identify similarly exposed groups at risk.

(8) Ensure that measurements using sound level meters and noise dosimeters be part of the industrial hygiene workplace exposure assessment process and be placed in DOEHRS-IH and -HC (Hearing Conservation), IAW reference 17-13. For noise areas exceeding the capability of double hearing protection, octave

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band analysis should be provided to assist in noise abatement efforts.

(9) Assess noise in all potentially hazardous noise work areas initially, and reassess when operations change, using the risk management process per reference 17-13.

(10) Assign Risk Assessment Codes to all potentially hazardous noise areas and operations, IAW reference 17-14.

(11) Conduct area and personal noise exposure sampling to identify (i) noise hazardous work areas and (ii) a sample of individuals to determine similarly exposed personnel (SEGs) required to be placed in the Hearing Conservation Program. For work areas exceeding the capability of double hearing protection, if resources are available, offer additional noise sampling (such as octave band analysis) to assist in engineering noise control.

(12) Provide support for audiometric testing and report Units' hearing readiness status via Medical Readiness Reporting System (MRRS), Enterprise Safety And Management System (ESAMS), or other electronic report.

(13) Provide subject matter expertise and technical review, and provide and document refresher hearing conservation training, that may be done in conjunction with the annual audiogram.

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Appendix 17-A
HEARING PROTECTIVE DEVICES (HPDs)

The actual effectiveness of any individual hearing protector cannot be determined under workplace conditions. However, both reference 17-1 and 17-29 require that personal hearing protection be worn to attenuate the occupational noise exposure of employees to within the range of the occupational exposure limits. Hearing protectors are evaluated under rigorous laboratory conditions specified by the American National Standards Institute (ANSI) in ANSI Z24.22-1957 (R1971) and ANSI S3.19-1974. However, OSHA's experience and the published scientific literature indicate that laboratory obtained real ear attenuation for hearing protectors can seldom be achieved in the workplace.

Reference 17-4 and Appendix B of reference 17-29 provide information on how to determine the adequacy of hearing protector attenuation using the Noise Reduction Rating (NRR) of a given hearing protector.

a. Field Attenuation of Hearing Protective Devices. To estimate the attenuation afforded to a noise-exposed employee in an actual work environment by muffs, plugs, or a combination of both, proceed as follows:

- 1) For single protection (muffs or plugs):
 - a. Obtain the Noise Reduction Rating (NRR), which is on the packaging of the Hearing Protection Device.
 - b. Subtract 7dB from the NRR to correct for using A-weighted measurements. No correction is needed for C-weighted and peak measurements.
 - c. To adjust for workplace conditions, apply a safety factor of 50 percent. This is because the field use of Hearing Protection Devices does not afford the same degree of protection achieved in the laboratory using well-trained subjects under ideal test conditions.

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- 2) For dual protection (muffs **and** plugs):

 - a. Obtain the NRR for the higher rated hearing protector.
 - b. Subtract 7dB (if using A-weighted measurements) or make no correction (if using C-weighted or peak measurements).
 - c. Apply a safety factor of 50 percent.
 - d. Add 5dB to the field-adjusted NRR to account for the use of the second hearing protector.

- 3) Calculation examples are provided in the first table of Appendix 17-A.

b. Personnel shall not be exposed to noise levels greater than 100 dBA (the effective field derated upper limit of dual Hearing Protective Devices) without wearing dual hearing protection (muffs **and** plugs) and implementing administrative controls to bring the effective exposure to less than an 8-hour time-weighted average of 85 dBA or 140 dBP.

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Summary of Hearing Protective Device (HPD) Use Requirements^{1,2}

Sound Pressure Level (SPL)	HPD Requirement	Rationale ^{1,2}
$\geq 85 - 96$ dBA <u>or</u> $\geq 140 - < 165$ dBP	Single (plugs <u>or</u> muffs) with derated NRR that will bring the effective exposure to less than an 8-hour time-weighted average of 85 dBA or 140 dBP	Ex. A more effective HPD might be considered to have a NRR of 29. The effective "dBA" derated NRR is approx 11 (i.e., $29 - 7 \times 0.5$). The approximate upper Sound Pressure Level attenuation limit of the derated single HPD is 96 dBA (i.e., $85 + 11$)
$> 96 - 100$ dBA <u>or</u> ≥ 165 dBP	Double (plugs <u>and</u> muffs) with derated NRR that will bring the effective exposure to less than an 8-hour time-weighted average of 85 dBA or 140 dBP	Ex. One HPD has a NRR of 29 and the other has a NRR of 27. The effective "dBA" derated NRR for the higher rated HPD is approximately 11 (i.e., $29 - 7 \times 0.5$). The second HPD adds approximately 5 dB of additional attenuation. The approximate upper Sound Pressure Level attenuation limit of the derated double HPDs is 101 dBA (i.e., $85 + 11 + 5$). (The upper limit was rounded to 100 dBA.)
> 100 dBA	Double (plugs and muffs) with a derated NRR <u>combined</u> with administrative controls to bring the effective exposure to less than an 8-hour time-weighted average of	Same basic rationale as for "Double" HPDs.

¹ OSHA's experience and the published scientific literature indicate that laboratory obtained real ear attenuation NRR values for HPDs can seldom be achieved in the workplace. Therefore, OSHA has implemented the concept of 50% derating of labeled NRRs as a tool to make determinations of HPD adequacy. Studies have found that on average workers only received approximately 50% of the published NRR values, and OSHA felt that this should be accounted for-- especially in programs with high Significant Threshold Shift rates. The 50% derating means that the listed NRR of a HPD is halved in an effort to more realistically represent a HPD's real world attenuation.

² The "96" and "100" dBA criteria for single and double HPD use, respectively, are general "rules of thumb." Therefore, BUMED Industrial Hygienists shall recommend the appropriate type of HPD based upon the actual derated attenuation properties of the HPD for the given assessed environment and other factors, such as comfort, length of use, cost, cleaning and maintenance, etc.

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	85 dBA or 140 dBP.	
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**Positive and Negative Features of Some Hearing Protective
Devices**

TYPE OF DEVICE	POSITIVE FEATURES	NEGATIVE FEATURES	Typical Derated Min. - Max. Noise Reduction Ratings (NRR)³
Plugs (pre- molded)	<ul style="list-style-type: none"> • Inexpensive • Variety of sizes • Easily carried 	<ul style="list-style-type: none"> • Individual fitting by medical personnel required • Frequent reinsertion may cause irritation • May loosen with jaw movement • Easily soiled 	Depending on product, compliance, & fit: ≈ (0 to 10dB Noise Reduction Rating [NRR] when derated)
Disposable	<ul style="list-style-type: none"> • Inexpensive • One size fits most • Easily carried • Shows dirt, so replaced more frequently 	<ul style="list-style-type: none"> • Requires conscientious insertion • May loosen with jaw movement • Limited choice of size • Not easily cleaned 	Depending on product, compliance, & fit: ≈ (0 to 16dB NRR when derated)
Custom Molded Plugs	<ul style="list-style-type: none"> • Comfortable • May be worn for long 	<ul style="list-style-type: none"> • Expensive • Requires medically 	Depending on product, compliance, fit, and

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TYPE OF DEVICE	POSITIVE FEATURES	NEGATIVE FEATURES	Typical Derated Min. - Max. Noise Reduction Ratings (NRR) ³
	<ul style="list-style-type: none"> periods • Sense of ownership /compliance with use • Can accommodate communications & other specialized use devices • Can be cleaned • May include interchangeable filters to vary level of noise reduction 	<ul style="list-style-type: none"> supervised ear impression • If lost or damaged must remake • With weight loss may not fit correctly • May loosen with jaw movement • Not easily cleaned 	electronic features: ≈ (0 to 16dB NRR when derated)
Headband Ear Canal Caps	<ul style="list-style-type: none"> • Quickly fitted without touching ears or caps • Easily carried • Inexpensive • Easily cleaned 	<ul style="list-style-type: none"> • Relatively poor sound attenuation • May be uncomfortable after short time 	Depending on product, compliance, & fit: ≈ (0 to 7dB NRR) when derated
Circumaural Noise Muffs	<ul style="list-style-type: none"> • Can be worn over plugs • Universal fit (one size fits most) • Can accommodate communications & other devices • Can be cleaned 	<ul style="list-style-type: none"> • Relatively expensive • If has swivel band, must have support strap • May be difficult to wear with other Personal Protective Equipment 	Depending on product, compliance, fit, and electronic features: ≈ (0 to 16dB NRR when derated)

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TYPE OF DEVICE	POSITIVE FEATURES	NEGATIVE FEATURES	Typical Derated Min. - Max. Noise Reduction Ratings (NRR) ³
		<ul style="list-style-type: none"> · Heavy · Difficult to carry · Hair and eyeglasses interfere 	

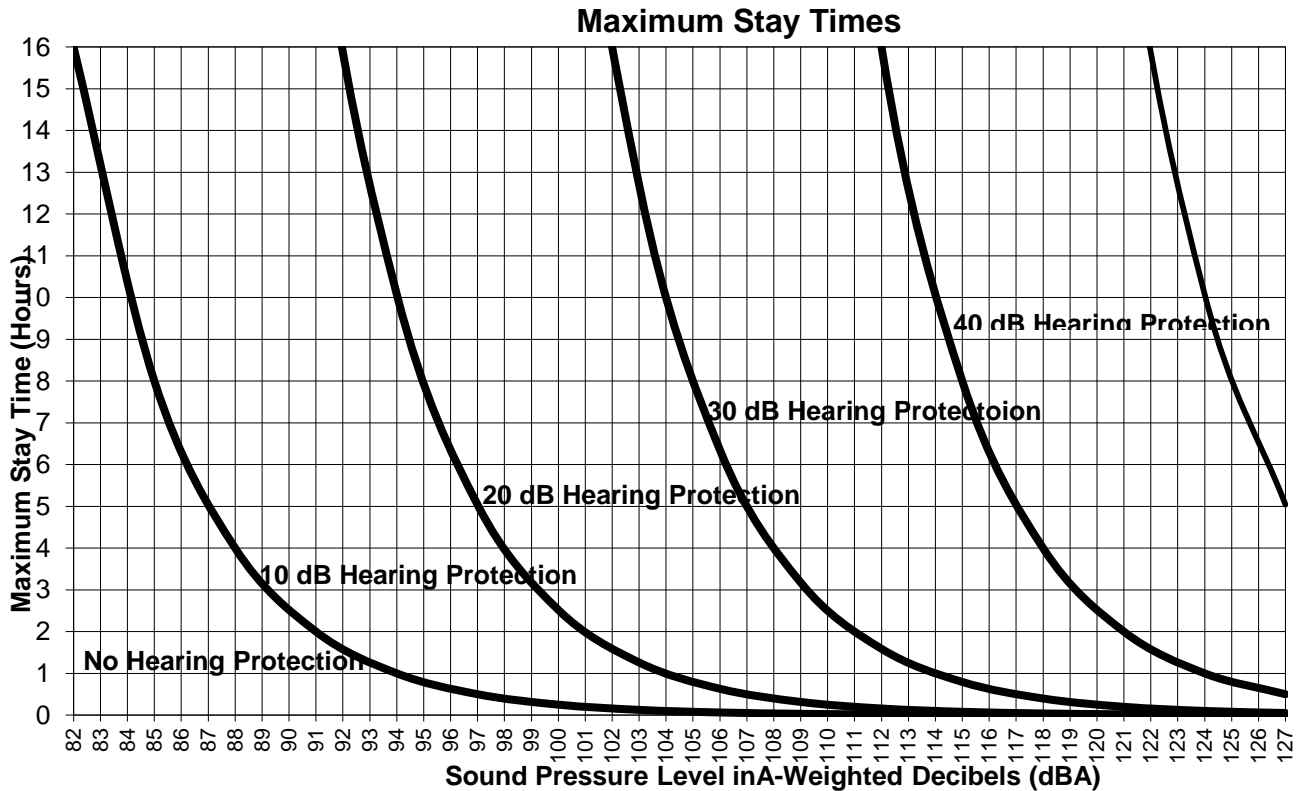
the concept of 50% derating of labeled NRRs as a tool to make determinations of HPD adequacy. Studies have found that on average workers only received approximately 50% of the published NRR values, and OSHA felt that this should be accounted for-- especially in programs with high Significant Threshold Shift rates. The 50% derating means that the listed NRR of a HPD is halved in an effort to more realistically represent a HPD's real world attenuation. Any single type of hearing protective device will not meet the needs of all personnel in a HCP. The appropriate types of HPDs should be selected while considering the factors listed above and the amount of attenuation required to reduce noise to levels below an 8 hour time-weighted average of 85 dBA or 140 dBP. Refer to the command's most recent industrial hygiene survey for specific HPD recommendations, or consult with the Health Clinic at Monterey Presidio.

³OSHA's experience and the published scientific literature indicate that laboratory obtained real ear attenuation NRR values for HPDs can seldom be achieved in the workplace. Therefore, OSHA has implemented

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Appendix 17-B

Administrative Control of Noise Exposure with Hearing Protective Devices



NOTE: Values may also be calculated using the formula:

$$T = \frac{16}{2^{\frac{L-82}{3}}} \qquad T = 8 \times 2^{\frac{85-L}{3}}$$

where

T = time in hours (decimal)

L = effective sound level in dBA (i.e., environmental SPL - NRR)

* Sound levels may be measured in either decibels (A) or decibels (C). However, if decibels (A) is used, the NRR must be reduced by 7 decibels.

Intermediate values may be interpolated by adding or subtracting the decibel difference to the appropriate column.

Appendix 17-C
DOD Hearing Conservation Metrics

Two metrics track hearing conservation program effectiveness:

1. Significant Threshold Shift (STS) rate is defined as a change in hearing threshold in either ear relative to the current Reference (Baseline) Audiogram by an average of at least 10 decibels at 2000, 3000, and 4000 Hz.

2. Audiogram completion rate.

STS rates are for hazardous noise exposed military, civilian, and combined totals. The measure is intended primarily for installations to monitor their effectiveness in preventing noise-induced hearing loss. STS rates and audiogram completion rates are also used to monitor effectiveness of the hearing conservation program. Because STS rates are heavily influenced by the percentage of exposed workers actually receiving annual audiograms, the rate of completion of audiograms is also measured. The STS rate and the audiogram completion rate shall be calculated according to reference 17-1 for "DoD Hearing Conservation metrics."

1. STS Rate. STS rate is defined as the number of STSs identified during annual audiograms, regardless of the findings of follow-up audiometry, for each 100 workers identified as potentially exposed to hazardous noise and tested during the annual reporting period. STS rates shall be monitored over time with statistical process control to identify changes in statistical behavior.

$$\text{STS Rate} = A/B,$$

where

A = Number of persons who have a significant
threshold shift

B = Number of employees/100

2. Audiogram Completion Rates. Completion rates are defined as the "percentage of workers identified as requiring annual audiograms who receive their audiograms."

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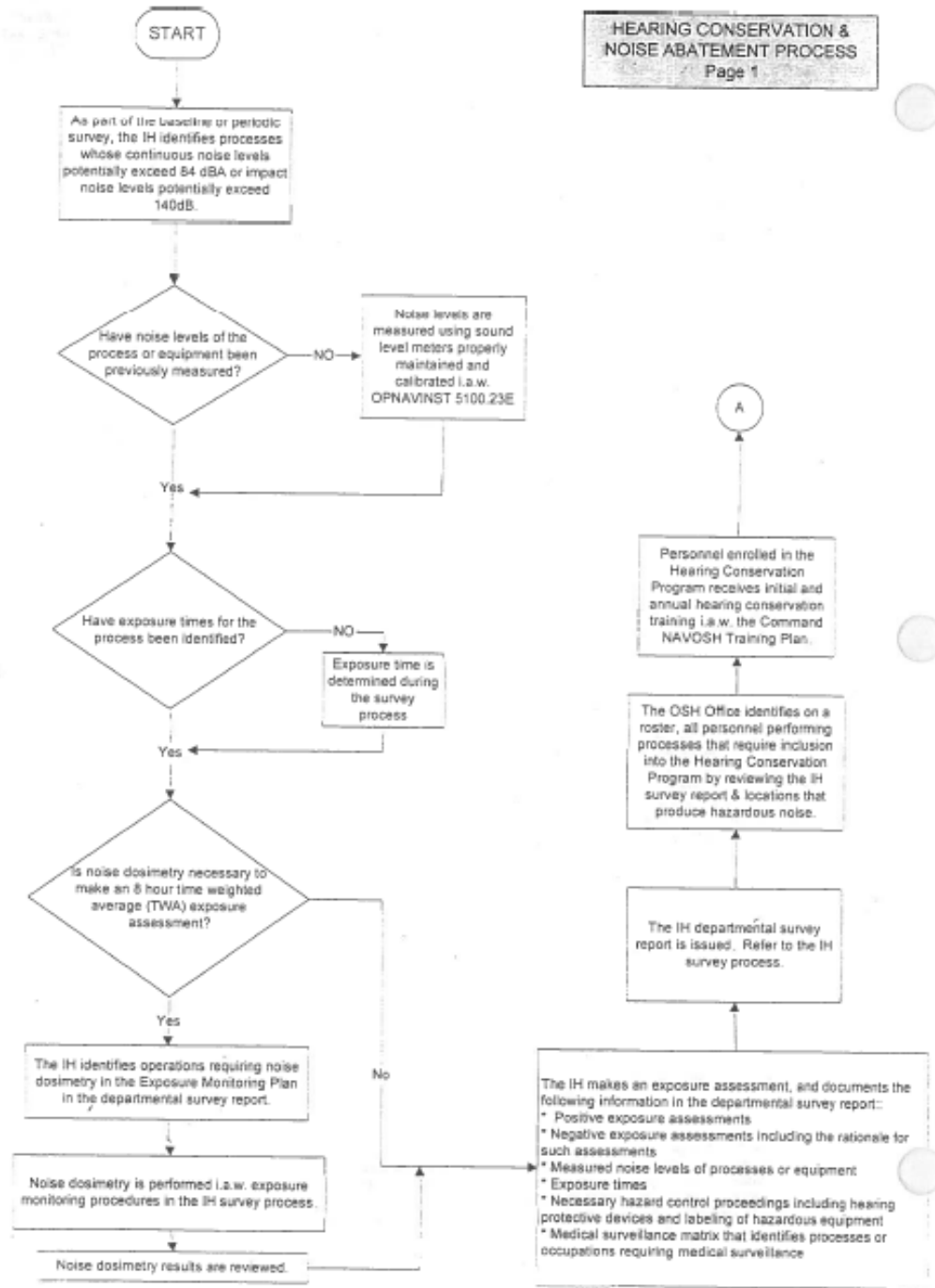
$$C = n/N,$$

where

- C = Audiogram completion rate (expressed as a percentage)
- n = number of persons who receive audiograms
- N = number of persons requiring annual audiograms

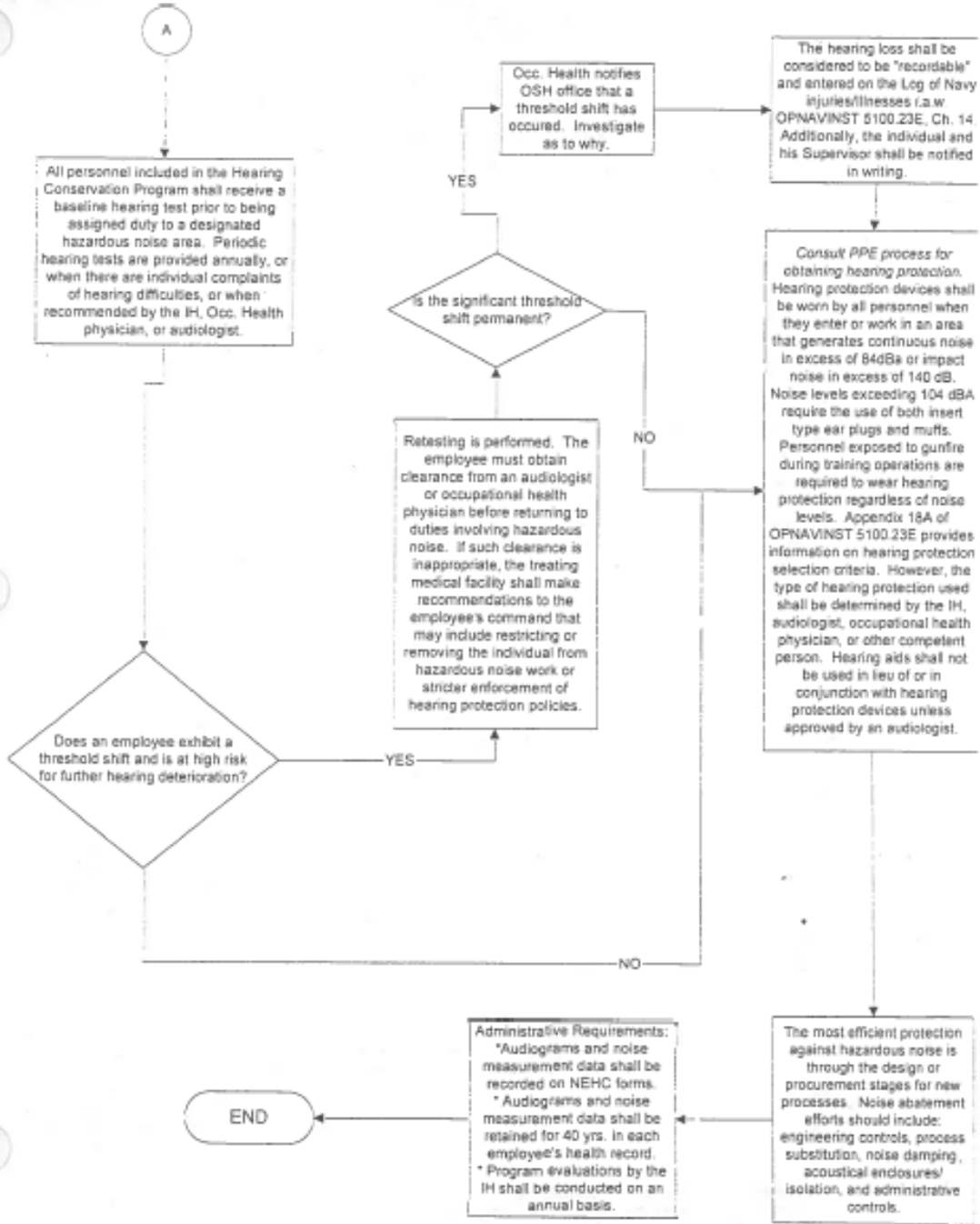
Appendix 17-D

NPS Hearing Conservation and Noise Abatement Process Flow Chart



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CHAPTER 18
SIGHT CONSERVATION

1801. Discussion

Naval Postgraduate School (NPS) shall implement a sight conservation program per the guidance established in this chapter and chapter 20 of this manual. NPS' sight conservation program shall include, but not be limited to, the following program elements:

- a. Identification and evaluation of eye hazardous areas, processes, and occupations.
- b. Prescription protection eyewear program.
- c. Provision and maintenance of appropriate personal protective equipment (PPE) at government expense.
- d. An employee training, promotion, and emphasis program.
- e. Effective program enforcement.

NOTE:

This chapter focuses primarily on sight conservation issues of concern (i.e., eye wash equipment and medical requirements for protective eyewear). For comprehensive aspects of a sight conservation program, consult Occupational Safety and Health Administration (OSHA) standards and other professional guidelines. Refer to reference 18-1 for guidance on eye and face protection. Additional help in choosing eyewear is available using the OSHA Eye and Face Protection e-Tool at <http://www.osha.gov/SLTC/etools/eyeandface/index.html>

1802. Emergency Eyewash Facilities

NPS shall provide emergency eyewash facilities meeting the requirements of reference 18-2 in all areas where the employees' eyes may be exposed to corrosive materials. All such emergency facilities shall be located where they are easily accessible and can be reached within 10 seconds by those in need.

Departments shall activate plumbed eyewash units weekly for a period long enough to verify operation and flush the line. For pressurized and non-pressurized self-contained eyewash units,

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regions or activities shall change flushing fluid (water or ready-to-use solution) and antibacterial additives quarterly, or as directed by manufacturer of the additive or solution, whichever is most frequent. Periodic maintenance shall include cleaning the unit, changing the fluid and checking proper operation.

Inspection and maintenance tags should be placed on self-contained eyewash units to document most current inspection, maintenance, or changing of flushing fluid. Departments shall maintain written, dated, and signed maintenance records for emergency eyewash equipment for a period of one year. Verification of eyewash activation during required workplace inspections and command evaluations is recommended.

NPS should only use self-contained eyewash units on a temporary basis until permanent emergency eyewash facilities are installed or at remote locations where water is not readily available. NPS shall not use personal eyewash units for work with corrosives. For other work operations not involving corrosives, personal eyewash units can only be used on a case-by-case basis with approval from the NPS Occupational Safety, Health and Environmental (OSHE) Staff.

NOTE:

This chapter addresses emergency eyewashes only. Guidance for emergency showers, personal eyewashes, and drench hoses can be found in reference 18-2.

1803. Occupational Eye Care Services and Equipment

It is a civilian employee's responsibility to obtain an eye refraction exam and secure an accompanying prescription for safety glasses (comprehensive vision examinations are a personal health responsibility and are strongly recommended in conjunction with an eye refraction examination). Procedures for obtaining prescription safety eyewear meeting the guidelines of reference 18-1 through contracts, reimbursement, cognizant medical activity, or other methods shall comply with provisions of Labor Management Relations covered under 5 United States Code Chapter 71, other provisions of law providing for collective bargaining agreements and procedures, and any agreements entered into under such provisions.

Vision screening shall be conducted annually for those working in sight-hazardous jobs to identify any who are functionally

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blind in one eye. Any worker who is found to have best-corrected distant visual acuity of 20/200 or worse in one eye requires additional work risk assessments. If a review of the work process confirms the possibility of high-velocity eye hazards, those workers functionally blind in one eye shall be required to use both protective eyewear and face shield when performing eye hazardous work.

Functional requirements, medical surveillance, and certification requirements are covered under the Occupational and Environmental Medicine program in paragraph 0805 of this manual.

When Navy medicine provides optometric services, i.e., eye refraction examinations and vision screenings, all medical forms and evaluations must be documented according to the Bureau of Medicine and Surgery Manual of Medical Department, NAVMED P117.

1804. Protective Eyewear

Protective eyewear shall be approved, selected, and maintained per the requirements in reference 18-1.

Where protective eyewear is necessary, NPS shall provide planos or goggles to visitors, students, instructors and others who must enter or pass through eye hazardous areas. Planos or goggles shall also be provided to employees awaiting delivery of corrective-protective eyewear.

Contact lenses are not eye protective devices, and wearing them does not reduce the requirement for eye and face protection. Guidance on contact lens use in a chemical environment can be found in National Institute for Occupational Safety and Health (NIOSH) Publication No. 2005-139: Current ***Intelligence Bulletin 59, Contact Lens Use in a Chemical Environment.***

Chapter 18
References

18-1. American National Standards Institute
(ANSI)/International Safety Equipment Association (ISEA)
Standard Z87.1-2010, Occupational and Educational Personal Eye
and Face Protection Devices
<http://www.ansi.org/>.

18-2. ANSI/ISEA Standard Z358.1-2009, Emergency Eyewash and
Shower Equipment, (NOTAL) <http://www.ansi.org/>.

CHAPTER 19
PERSONAL PROTECTIVE EQUIPMENT

1901. Discussion and Policy

a. The best method of protecting personnel from hazard exposure in the workplace is to eliminate the hazard. When this is not possible, engineering controls shall be implemented to eliminate or minimize hazard exposure. When neither elimination nor engineering controls are feasible, Naval Postgraduate School (NPS) shall implement a personal protective equipment (PPE) program for personnel that may be potentially exposed to hazards in the workplace.

b. NPS personnel shall use and maintain PPE when competent authority determines that its use is necessary and that such use will lessen the likelihood of occupational injuries and or illnesses. Principal Investigators (PIs) shall properly train personnel under their supervision required to use PPE per paragraph 1913 and ensure PPE is worn correctly.

c. NPS personnel must recognize that personal protective equipment does not reduce or eliminate the hazard itself. PPE merely provides a last line of defense, and any breakdown, failure or misuse of PPE immediately leads to the worker being exposed to the hazard. Whether caused by misuse or improper maintenance, PPE can become ineffective without the wearer realizing it, creating potentially serious consequences. For this reason, accurate hazard assessments, proper equipment selection, storage, maintenance, employee training (including equipment limitations), and mandatory enforcement of equipment use are key elements of an effective PPE program.

d. Deficiencies in available protective equipment should be reported to the appropriate program manager or systems technical authority using ESAMS.

1902. Basic Program Requirements

Each department shall ensure that hazard assessments of all workplaces are conducted to determine if hazards are present that necessitate the use of PPE. If such hazards are present, or likely to be present, departments shall accomplish the following actions:

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a. Select appropriate PPE for each hazard identified in the assessment. Ensure each affected person is trained on and uses assigned PPE.

b. Communicate PPE selection decisions to each affected employee.

1903. Equipment Specifications and Requirements

All personal protective clothing and equipment shall be of safe design and construction for the work to be performed. Federal agencies and standards organizations have developed standards and specifications for the design and use of PPE and devices. Departments shall only use those items that have been recognized and approved. This approval can be met through the use of:

a. Federal specifications.

b. American National Standards Institute (ANSI) or other nationally recognized consensus standard organization specifications (such as the National Fire Protection Association (NFPA) or the American Society for Testing and Materials (ASTM)).

c. Recognized approval authority, such as Underwriters Laboratories, Factory Mutual, or Safety Equipment Institute.

1904. Eye and Face Protection

a. Employees shall use eye protection at all times in a designated eye hazard area. Flying particles and chips, splashes from liquids such as acids, caustics and solvents, and operations that generate hot slag or molten metal, welding glare, etc., can cause eye and or face injury. Employees shall wear protective equipment for the eyes and/or face from electric arcs or flashes from flying objects resulting from an electrical explosion. Reference 19-3 provides the performance requirements, selection, use, and maintenance requirements for eye and face protective devices. The selection guidance table is reprinted in appendix 19-A.

NOTE:

29 Code of Federal Regulations (CFR) 1910.133 requires that eye and face protectors comply with ANSI Z87.1 (i.e., Z87.1-1903, Z87.1-R and Z87.1-1989). Although the 1910 version of ANSI Z87.1 is not currently incorporated into 29 CFR 1910.133,

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it meets or exceeds previous versions of the ANSI Z87.1 standard.

b. Full face respirators may be required for eye and face protection even when contaminant concentrations are below 10 times the occupational exposure limits (the level of protection for which half mask respirators are ordinarily acceptable for controlling inhalation hazards). If work processes require full face respirators and impact protection, check with the respirator manufacturer to ensure respirator lenses comply with reference 19-3 impact testing requirements.

c. Chapter 18 contains additional information on the sight conservation program.

1905. Hearing Protection

See chapter 17 of this manual for hearing protection requirements.

1906. Respiratory Protection

See chapter 14 of this manual for respiratory protection requirements.

1907. Head Protection

Employees shall wear head protection at all times in designated hard hat areas. Protective helmets worn to reduce the effects of impact or penetration by falling and flying objects or to provide protection from electric shock, shall meet the specifications of reference 19-4.

1908. Foot Protection

a. Foot Hazardous Operations. Employees shall wear foot and toe protection at all times in a designated foot hazard area. Examples of trades or ratings generally associated with foot or toe hazardous operations are construction, materials handling, maintenance, transportation, ship repair and operation, aircraft overhaul and repair, and explosives manufacturing and handling.

b. Protective Footwear

(1) Protective footwear is designed to provide protection against a variety of workplace hazards that can potentially cause injury. Protective footwear shall conform to

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the requirements of reference 19-5 and be appropriately labeled and identified.

(2) Employees shall wear the following special-purpose safety footwear for special hazards:

(a) Semi-conductive or static dissipative safety shoes are used to dissipate static electricity. To be effective, employees must use the shoes on conductive surfaces, such as wet concrete, metal decks, carbon impregnated surfaces, wet terrain, conductive linoleum, and conductive tiles.

(b) Conductive protective footwear providing extra protection on jobs where static electricity must be conducted out of the body through the ground, for example near explosives.

(c) Molder's "Congress" style safety shoes or boots for protection while handling or producing molten metal or metallic sparks (e.g., welding, or cutting). The design allows for quick removal of the shoes, if necessary, to minimize injury if molten materials fall inside.

(d) Electric shock resistant footwear providing the wearer with shock resistance protection against incidental contact with live electrical circuits, electrically energized conductors, parts, or apparatus. Shock resistant footwear only provides partial protection and personnel should not ignore additional protective measures normally employed in these environments. For example, electrical hazard protection is severely compromised if there is excessive wear on the outsole and heel of the footwear and during exposure to wet and humid environments.

(e) Chemical resistant boots providing protection against liquid chemicals, which could penetrate other types of safety shoes. Chemical resistant safety boots are made from rubber, polyvinyl chloride, or nitrile. The type of boot required is dependent on the chemical for which protection is needed.

(3) Safety boots are general purpose footwear that offer the same toe protection as safety shoes but provide added foot and ankle support. The Navy does not approve these boots for use in areas where hazardous chemicals are used.

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1909. Hand and Arm Protection

a. Departments (or PI's) shall select, provide, and require appropriate hand and arm protection whenever employees are exposed to, or are likely to be exposed to, such hazards as: skin absorption of harmful substances; severe cuts or lacerations; severe abrasion; punctures; electrical shock; chemical irritants; thermal burns; electrical arc flash; and harmful temperature extremes.

b. Departments (or PI's) shall base selection of hand protection on an evaluation of the performance characteristics of the hand and arm protection relative to the task(s) to be performed, conditions present, duration of use, and the hazards and potential hazards identified by the Safety Office.

c. When selecting hand and arm protection that will be used for chemical hazards, workers must evaluate the chemical's ability to permeate and penetrate the glove material. Most glove manufacturer's publish this information.

d. Use of certain power hand tools may be associated with exposures to high levels of hand-arm vibration. The best control is process evaluation and selection of tools and equipment creating the lowest exposures to vibration, other ergonomic stresses, and noise. When PPE is still needed, consideration should be given to anti-vibration gloves. A link for further guidance to the document, "How to Order Low-Vibration Tools and Anti-Vibration Gloves", can be found in this manual, Appendix 23-C.

1910. Electrical Protective Devices

a. PPE and other protective equipment (tools and test instruments) selected and used for work on energized electrical conductors or circuit parts shall comply with Article 130, "Standards on Protective Equipment" of reference 19-6.

b. Navy activities shall provide appropriate rubberized protective equipment for electrical workers who perform work on energized or potentially energized electrical systems. Leather protectors shall be provided and worn with rubber insulating gloves where there is a danger of hand injury from electric shock due to contact with energized electrical conductors or circuit parts. Hand and arm protection shall be worn where there is possible exposure to arc flash burn. Equipment shall conform to references:

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- (1) ASTM D11919, Standard Specification for Rubber Insulating Gloves <http://www.astm.org/Standards/D119.htm>.
- (2) ASTM D178-01(1910), Standard Specification for Rubber Insulating Matting <http://www.astm.org/Standards/D178.htm>.
- (3) ASTM D1048-11, Standard Specification for Rubber Insulating Blankets <http://www.astm.org/Standards/D1048.htm>.
- (4) ASTM D1049-98(1910), Standard Specification for Rubber Insulating Covers <http://www.astm.org/Standards/D1049.htm?G+mystore>.
- (5) ASTM D1050-05e1, Standard Specification for Rubber Insulating Line Hose <http://www.astm.org/Standards/D1050.htm>.
- (6) ASTM D1051-08, Standard Specification for Rubber Insulating Sleeves <http://www.astm.org/Standards/D1051.htm>.
- (7) ASTM F696-06 (1911) Standard Specification for Leather Protectors for Rubber Insulating Sleeves or Mittens <http://www.astm.org/Standards/F696.htm>
- (8) ASTM F479-06 Standard Specification for In-Service Care of Insulating Blankets <http://www.astm.org/Standards/F479.htm>
- (9) ASTM F478-09 Standard Specification for In-Service Care of Insulating Line Hose and Covers <http://www.astm.org/Standards/F478.htm>
- (10) ASTM F496-08 Standard Specification for In-Service Care of Insulating Gloves and Sleeves <http://www.astm.org/Standards/F496.htm>
- (11) ASTM F1236-96(1907) Standard Guide for Visual Inspection of Electrical Protective Rubber Products <http://www.astm.org/Standards/F1236.htm>

1911. Special Safety Clothing

Special clothing may consist of flame-resistant (FR) fabric for shirts and pants, balaclava, coveralls, disposable coveralls, impervious chemical resistant coveralls, personal floatation devices (PFDs), welding leathers, electrical arc-rated FR clothing and PPE and/or chemical resistant aprons.

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a. Departments (or PI's) shall base selection of special, protective clothing on an evaluation of the performance characteristics of the clothing relative to the task(s) to be performed, conditions present, duration of use, and the hazards and potential hazards identified by the Safety Office.

b. Departments (or PI's) shall provide appropriate special protective clothing whenever employees are exposed to, or are likely to become exposed to, such hazards as those from skin absorption of harmful substances, chemical irritants, thermal burns, electrical arc flash, and harmful temperature extremes.

c. Whenever personnel are required to wear United States Coast Guard approved life jackets in open sea operations, the life jackets must be inherently buoyant per reference 19-7. Jacket type life preservers may be used in lieu of inherently buoyant PFDs by personnel in exposed pier locations, when working over the side, working on floating camels or barges, and during tug and small boat operations.

1912. Personal Fall Protection Equipment

Fall protective equipment is discussed in Chapter 13 of this manual.

1913. Training

a. PI's shall provide training to each employee who is required to use PPE to include at least the following:

- (1) When PPE is necessary.
- (2) What PPE is necessary.
- (3) How to properly don, doff, adjust, and wear PPE.
- (4) The limitations of the PPE.
- (5) The proper care, maintenance, useful life, storage, and disposal of the PPE.
- (6) The PPE pre- and post-operation inspection procedures and damage and defect criteria that would render the PPE unsafe for use.

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b. Each affected person shall demonstrate an understanding of the training specified in paragraph 1913.a and the ability to use PPE properly before being allowed to perform work requiring the use of PPE.

c. When a PI has reason to believe that any affected employee who has already been trained does not have the understanding and skill required by paragraph 1913.b., the PI shall ensure retraining is accomplished for each such employee. Circumstances where retraining is required include, but are not limited to, situations where:

(1) Changes in the workplace render previous training obsolete.

(2) Changes in the types of PPE to be used render previous training obsolete.

(3) Inadequacies in an affected employee's knowledge or use of assigned PPE indicate that the employee has not retained the requisite understanding or skill.

d. PI's shall maintain documentation verifying that each affected employee has received and understands the required training. Documentation shall be in accordance with paragraph 0605 of this manual.

1914. Responsibilities

a. NPS OSHE Directorate will:

(1) Ensure that hazard assessments of workplaces are performed, including electrical arc flash analysis and applicable hazardous material data and industrial hygiene survey reports, to determine PPE requirements. The BUMED servicing Industrial Hygienist will perform these assessments. NPS shall use the results of these assessments to designate appropriate work conditions and work areas as requiring PPE. Departments/Pis shall integrate the PPE requirements into local policy and or standard operating procedures.

(2) Ensure that PPE conforms to Occupational Safety and Health Administration requirements from references 19-8 and 19-9, and Navy Safety policy.

b. Pis will:

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(1) Train personnel in the selection, use, inspection, and care of PPE required for their work situations, and maintain records of such training.

(2) Ensure appropriately sized PPE is available and properly worn by personnel.

(3) Ensure designated personnel perform periodic equipment inspection, cleaning, disinfection, and maintenance.

(4) Provide proper equipment storage to protect against environmental conditions that might degrade the effectiveness of the equipment or result in contamination during storage.

(5) Ensure compliance with the prescribed use of PPE.

(6) Report non-use, misuse, or malfunction of PPE that results, or may result, in injury or occupational illness to Navy personnel via ESAMS.

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Chapter 19 References

- 19-1. NAVSUPINST 10124.1A, Navy Protective Clothing Board (NPCB), of 22 Aug 08.
- 19-2. Title 29 Code of Federal Regulations (CFR) 1910 Subpart I, Appendix B, Non-mandatory Compliance Guidelines for Hazard Assessment and Personal Protective Equipment, latest revision, http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10119,
- 19-3. ANSI Z87.1-191019, American National Standard Practice for Occupational and Educational Personal Eye and Face Protection Devices <http://webstore.ansi.org/FindStandards.aspx?SearchString=Z87.1&SearchOption=0&PageNum=0&SearchTermsArray=null%7cZ87.1%7cnul1>.
- 19-4. ANSI/International Safety Equipment Association (ISEA) Z89.1-1909, **American National Standard Requirements for Protective Headwear for Industrial Workers** <http://webstore.ansi.org/>.
- 19-5. 19ASTM F2413 - 05, Standard Specification for Performance Requirements for Foot Protection <http://www.astm.org/Standards/F2413.htm>.
- 19-6. NFPA 70E, Electrical Safety in the Workplace <http://www.nfpa.org/aboutthecodes/AboutTheCodes.asp?DocNum=70E&cookie%5Ftest=1>.
- 19-7. U.S. Coast Guard PFD Selection, Use, Wear and Care <http://www.uscg.mil/hq/cg5/cg5214/pfdselection.asp>
- 19-8, Title 29 Code of Federal Regulations (CFR), Subpart I, Personal Protective Equipment, http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=10118
- 19-9 Title 29 CFR, Subpart S, 1910.335, Safeguards for Personnel Protection, http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=9912&p_table=STANDARDS

Appendix 19-A Eye and Face Protector Selection Chart

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Eye and Face Protector Selection Chart

Protective devices do not provide unlimited protection. This information is intended to aid in identifying and selecting the types of eye and face protectors that are available, their capabilities and limitations for the hazards listed. This guide is not intended to be the sole reference in selecting the proper eye and face protector.

Hazard	Protectors	Limitations	Marking ¹
IMPACT - Chipping, grinding, machining, masonry work, riveting, and sanding			
Flying fragments, objects, large chips, particles, sand, dirt, etc.	<ul style="list-style-type: none"> Spectacles with side protection Goggles with direct or indirect ventilation Faceshield worn over spectacles or goggles Welding helmet 	<p>Caution should be exercised in the use of metal frame protective devices in electrical hazard areas. Metal frame protective devices could potentially cause electrical shock and electrical burn through contact with, or thermal burns from exposure to the hazards of electrical energy, which include radiation from accidental arcs.</p> <p>Atmospheric conditions and the restricted ventilation of a protector can cause lenses to fog. Frequent cleaning may be required.</p>	<p>Impact rated</p> <ul style="list-style-type: none"> * Spectacle lens Z87+ (all other lens) Z87+ (plano frame) Z87-2+ (Rx frame)
HEAT - Furnace operations - pouring, casting, hot dipping, gas cutting, and welding			
Hot sparks	<ul style="list-style-type: none"> Spectacles with side protection Goggles with direct or indirect ventilation Faceshield worn over spectacles or goggles Full-facepiece respirator Loose-fitting respirator worn over spectacles 	<p>Spectacles, cup and cover type goggles do not provide unlimited facial protection.</p> <p>Operations involving heat may also involve optical radiation. Protection from both hazards shall be provided.</p>	
Splash from molten metal	<ul style="list-style-type: none"> Faceshield worn over goggles Full-facepiece respirator Loose-fitting respirator worn over spectacles 		
High temperature exposure	<ul style="list-style-type: none"> Screen faceshield over spectacles or goggles Reflective faceshield over spectacles or goggles 		
CHEMICAL - Acid and chemical handling, degreasing, plating			
Splash and irritating mists	<ul style="list-style-type: none"> Goggles with indirect ventilation (eyecup or cover type) Faceshield worn over spectacles or goggles Full-facepiece respirator 	Atmospheric conditions and the restricted ventilation of a protector can cause lenses to fog. Frequent cleaning may be required.	Splash/irritant: D3

Hazard	Protectors	Limitations	Marking ¹
DUST - Woodworking, buffing, general duty conditions			
Nuisance dust	<ul style="list-style-type: none"> Goggles with direct or indirect ventilation (eyecup or cover type) Full-facepiece respirator 	Atmospheric conditions and the restricted ventilation of a protector can cause lenses to fog. Frequent cleaning may be required.	Dust: D4 Fine dust: D5
OPTICAL RADIATION			
Welding: Electric Arc	<ul style="list-style-type: none"> Welding helmet over spectacles or goggles Handshield over spectacles or goggles <p>TYPICAL FILTER LENS SHADE: 10-14</p>	Protection from optical radiation is directly related to filter lens density. Select the darkest shade that allows adequate task performance.	Welding: W shade number UV: U scale number Glare: L scale number IR: R scale number Variable lens: V Special purpose: S
Viewing electric arc furnaces and boilers	<ul style="list-style-type: none"> Welding helmet over spectacles or goggles Handshield over spectacles or goggles <p>TYPICAL FILTER LENS SHADE: 4-8</p>		
Welding: Gas	<ul style="list-style-type: none"> Welding helmet over spectacles or goggles Handshield over spectacles or goggles <p>TYPICAL FILTER LENS SHADE: 3-6</p>		
Viewing gas-fired furnaces and boilers	<ul style="list-style-type: none"> Welding goggles Welding helmet over spectacles or goggles Handshield over spectacles or goggles Welding respirator <p>TYPICAL FILTER LENS SHADE: 3-6</p>		
Cutting	<ul style="list-style-type: none"> Welding goggles Welding helmet over spectacles or goggles Handshield over spectacles or goggles Welding respirator <p>TYPICAL FILTER LENS SHADE: 3-6</p>		
Torch brazing	<ul style="list-style-type: none"> Welding goggles Welding helmet over spectacles or goggles Handshield over spectacles or goggles Welding respirator <p>TYPICAL FILTER LENS SHADE: 3-6</p>		
Torch soldering	<ul style="list-style-type: none"> Spectacles Welding faceshield over spectacles Welding respirator <p>TYPICAL FILTER LENS SHADE: 1.5-3</p>	Shade or special purpose lenses, as suitable. Note: Refer to definition of special purpose lenses in ANSI/ISEA Z87.1-2010.	
Glare	<ul style="list-style-type: none"> Spectacles with or without side protection Faceshield over spectacles or goggles 		

¹ Refer to ANSI/ISEA Z87.1-2010 table 4a for complete marking requirements.

CHAPTER 20
LEAD

2001. Discussion

a. The goal of this chapter is to prevent lead intoxication and related injuries during the use, handling, removal and melting of materials containing lead at Naval Postgraduate School (NPS) activities.

b. Lead, as used in this chapter, means metallic lead, all inorganic lead compounds, and organic lead soaps (e.g., lead naphthenate). Lead's abundance, low melting point, high molecular weight, high density and malleability make it a useful material. When added to resins, grease, or rubber, lead compounds act as an antioxidant. Common uses for lead and lead compounds include:

- (1) Ballast
- (2) Radiation shielding
- (3) Paint filler and hardener
- (4) Rubber antioxidant
- (5) An acoustical insulation component
- (6) Solder for electrical components and pipe joints
- (7) High voltage cable shielding
- (8) Small arms ammunition
- (9) Batteries
- (10) Roof flashing
- (11) Weights

Although lead has been removed from paint, lead may be found in old housing (pre 1978) and in industrial and traffic-related paints such as old polyurethane. Lead is frequently found in many industrial and residential paints, including polyurethane and water based paints.

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c. Significant lead exposures can occur during:

(1) Melting lead or lead-containing Babbitt (a mixture containing two or more metallic elements or metallic and nonmetallic elements usually fused together or dissolving into each other when molten).

(2) Casting molten lead or alloy containing lead.

(3) Ballast handling.

(4) Cutting ballast straps with torch or grinder.

(5) Spraying, sanding, scraping, grinding, burning, welding and abrasive blasting, especially on components/equipment with lead based coatings or lead alloys.

(6) Bullet trap clean-out/general cleaning at firing ranges.

(7) Lead shield repair.

(8) Repairing electronics with lead solder.

(9) Special Hull Treatment (SHT) tile cutting.

(10) High voltage cable repair.

(11) Lead-acid battery reclaiming.

(12) Cleanup or handling of lead-contaminated debris and clothing.

d. Lead is a recognized health hazard. Lead overexposure can damage many organ systems, especially the brain nervous system, kidneys, reproductive system, and inhibit heme synthesis (red blood cell production). The Navy recognizes the serious health hazards associated with lead exposure and has established strict controls for processes which can potentially expose personnel to these hazards.

2002. Responsibilities

a. The NPS Occupational Safety, Health, and Environmental (OSHE) Directorate is responsible for:

(1) Providing lead training for persons who require it.

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(2) Providing guidance and technical assistance in defining appropriate engineering and work practice controls, and identifying acceptable lead-free substitute materials.

(3) Provides personnel with guidance and training for selecting personal protective equipment (PPE).

(4) Centrally managing the lead Medical Surveillance Program.

(5) Provide hands on training and fit-testing for respirators.

b. The BUMED assigned servicing Industrial Hygienist (Servicing IH) is responsible for:

(1) Conducting workplace monitoring evaluations of lead operations and notify workplace owners of any requirements for lead exposure medical surveillance program enrollment.

(2) Provide personnel who are included in the Medical Surveillance Program with written monitoring results of their lead exposures.

c. NSAM NAVFAC is responsible for:

(1) Reviewing engineering designs of ventilation systems for lead operations.

d. Department Chairs are responsible for:

(1) Providing personal protective equipment (PPE), including respirators, to persons requiring such equipment.

e. Supervisors are responsible for:

(1) Reporting any new lead operations, or changes in existing operations, to the NPS OSHE Directorate and the Servicing IH.

(2) Ensuring that the control measures and monitoring procedures prescribed in this chapter are applied to processes using lead or lead-containing materials.

(3) Ensuring that, where feasible, materials containing lead are substituted with less hazardous materials.

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(4) Ensuring that personnel under their control attend re-quired lead training.

f. Personnel and Contractors are responsible for:

(1) Wearing PPE when required.

(2) Viewing the training provided on ESAMS by the NPS OSHE Directorate.

(3) Following all precautions described in this chapter.

g. NPS Department Chairs shall:

(1) Apply control measures and monitoring procedures prescribed in this chapter to processes using lead or lead containing materials.

(2) Budget resources in order to meet these lead control requirements.

2003. Permissible Exposure Limit (PEL) and Action Level Triggering Requirements

a. PEL. The PEL for an 8-hour time-weighted average (TWA) exposure to airborne lead is 50 micrograms per cubic meter (mg/m^3) of air. If an employee is exposed to lead for more than 8 hours in any work day, the PEL as a TWA for that day shall be reduced according to the following formula:

$$PEL\left(\frac{\text{mg}}{\text{m}^3}\right) = \frac{400}{\text{No. Hours Worked Per Day}}$$

NPS workspace owners shall implement engineering, work practice and administrative controls to the extent feasible to reduce the exposure to below the PEL when an employee's exposure exceeds the PEL for more than 30 days per year. Wherever the engineering and work practice controls are not sufficient to reduce employee exposure to or below the permissible exposure limit, workspace owners shall nonetheless use engineering controls to reduce exposure to the lowest feasible level and shall supplement them by use of respirators. Where an employee is exposed to lead above the PEL for 30 days or less per year, NPS shall use engineering controls to reduce exposures to 200 mg/m^3 or lower. Thereafter, use any combination of engineering, work practice,

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and respiratory protection controls to reduce employee exposure to or below 50 mg/m^3 .

b. Action Level (AL). The AL for an 8-hour TWA exposure to airborne lead is 30 mg/m^3 (without regard to respirator use). Exposure to airborne lead at or above the AL, for more than 30 days per year, shall trigger biological monitoring and medical surveillance.

2004. Control of Lead in the Workplace Environment

This chapter discusses the basic principles for controlling hazards in the occupational environment including substitution with less hazardous materials, engineering controls (closed systems, thermostats), administrative controls (job rotation, work time limits), and use of personal protective equipment (PPE), in that order. Total reliance on PPE is acceptable only when all other methods are proven to be technically and or economically infeasible

a. General Workplace Control Practices.

(1) NPS personnel shall not use paints containing more than 0.009 percent lead by dry weight unless the Naval Safety Center specifically approves higher lead content paint.

(2) Before proceeding with or requesting any work involving paint, it must be determined if lead is a constituent of the paint. This may be accomplished via testing of the paint using a valid laboratory method, or through established and accurate records which provide the needed information (e.g., paint application records coupled with lead content data from material safety data sheets, product labels, prior testing results, or other valid documentation). The servicing IH in coordination with NSAM NAVFAC, where appropriate, will determine the lead monitoring and controls required for the proposed work. This determination shall be based on the lead content of the involved paints, the work methods to be employed, and observation, calculations, or previous measurements relevant to the employee exposure potential of the work in question.

(3) When feasible, minimize the heating of lead and leaded materials through the use of thermostatically controlled heating or the removal of lead containing surface coatings or contaminants prior to heating.

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(4) In any instance where lead fumes or particles may be released, workspace owners shall establish procedures to maintain work surfaces as free of lead dust as is practical and shall clean up lead dust with high efficiency particulate air (HEPA) filtered vacuum cleaners. They may only use wet sweeping and brushing when vacuuming or other equally effective methods have been tried and found to be ineffective or infeasible.

Note:

Compressed air shall not be used to clean work surfaces or work floors.

(5) Workspaces that have lead containing waste, scrap, debris, containers, equipment, and clothing consigned for disposal shall collect it, seal it in impermeable containers, and label it for disposal by the NSAM Environmental department.

(6) To minimize exposure potential, workspace owners shall isolate hot work on lead and abrasive lead removal operations to the extent feasible, from all other operations.

(7) Because of the extreme physical exertion, workers shall not stack lead bricks for more than 4 hours per day. Lead bricks that are painted or laminated are safer to handle. Additionally, use only lead bricks or designed forms where feasible, DO NOT purchase spaghetti lead or lead wool.

Note:

Lead shots may be used, but only in sealed containers

(8) Proper Storage for lead: All lead containing materials must be inventoried and stored in a dry area that is encased in/covered with plastic. Lead bricks must be stored and moved on steel pallets, covered with plastic sheeting, and remain sheltered from environmental elements to avoid contaminating conventional wood pallets as well as the surrounding area.

b. Ventilation

Mechanical exhaust ventilation is frequently required to ensure that atmospheric levels of lead particulate do not exceed the PEL. The list below contains general requirements for the design and use of ventilation systems to reduce exposures. The servicing IH will provide specific guidance for each lead operation.

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(1) The servicing IH will provide recommendations regarding specific equipment design parameters and system servicing procedures for each operation.

(2) NSAM NAVFAC ICW workspace owners will design, construct and maintain local exhaust ventilation and dust collection systems per references 20-4 through 20-7.

(3) The NPS servicing IH will test ventilation systems used to control lead exposures or emissions using qualified engineering or industrial hygiene personnel at least every 3 months and within 5 days of any production, process, or control change which may result in a change in employee exposure. Where devices such as manometers, pitot tubes (a device to measure fluid flow velocity), etc., are installed to continuously monitor the effectiveness of ventilation systems, the servicing IH will instruct employees who use the system on the meaning and importance of the measurements and to immediately contact the NPS Safety Directorate office if the measuring devices indicate a malfunction. Where such devices are in place, the servicing IH only needs to inspect the ventilation systems annually.

(4) Workspaces using ventilation systems to control occupational exposures or emissions shall not re-circulate air from operations generating lead into any workspace. Ventilation is to be HEPA filtered before exhausted directly to the atmosphere. The NSAM environmental manager shall approve the air pollution control system after consulting with the cognizant air pollution regulatory agency.

(5) The servicing IH will review the ventilation design for ease of maintenance and accessibility, as well as design errors, and will pay special attention to hoods, duct work, clean out hatches, exhaust fans and air pollution control devices. NSAM NAVFAC will install the exhaust fan after the air pollution control system, in a protected and restricted room or shed. If a HEPA filter is required and the filter and pre-filter housing is located outdoors, a bag-in, bag-out style access housing shall be used.

c. Personal Protective Clothing and Related Control Facilities.

(1) The servicing IH will provide guidance regarding the adequacy of, and requirements for, protective clothing and respirators. Personnel working in situations where the concentration of airborne particulates is likely to exceed the PEL, or

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where the possibility of skin or eye irritation exists, will remove clothing worn to and from work and wear protective clothing provided by the appropriate NPS department.

(2) Change rooms and shower facilities shall be provided for anyone who works in areas where the lead exposure is above the PEL. The servicing IH shall be consulted regarding location and types of showers and change rooms, and laundering of contaminated clothing. Protective clothing removal procedures will be posted in the change room.

(3) Further guidance regarding specific PPE requirements can be found in ref 20-1 through ref 20-13.

d. Respiratory Protection

(1) Where a respirator is required, it will be approved by the National Institute for Occupational Safety and Health (NIOSH) and the Mine Safety and Health Administration.

(2) Respirators with tightly fitting facepieces should not be worn for more than 4.4 hours per day. Quantitative fit tests will be required for all respirator users at the time of initial fitting, and annually thereafter for all users of negative pressure respirators (qualitative fit tests may be used for testing half-mask respirators where they are permitted to be worn and for full-face respirators where they are not required, but requested to be worn).

(3) Personnel engaged in unventilated hot operations on lead-containing materials, where temperatures are not controlled (hot, unventilated welding operations and melting operations, and melting operations without thermostatic controls), and in unventilated indoor or outdoor spray painting operations, will wear positive-pressure, supplied-air respirators.

(4) Limits of Respirator Usage - for all respirator usage limits refer to the manufactures guidelines.

e. Warning Signs and Caution Labels

(1) Warning signs will be provided and shall be displayed at each location where airborne lead concentrations may exceed the PEL. Workspace owners shall conspicuously post signs so personnel may read them and take necessary precautions before entering the area. They shall clean and illuminate the signs as necessary so that the legend is readily visible. Signs, in compliance with reference 20-1, may contain a listing of required

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protective equipment and shall state, as a minimum, the following:

**WARNING
LEAD WORK AREA
POISON
NO SMOKING or EATING**

(2) Caution Labels - Workspace owners will affix caution labels to containers of contaminated clothing, equipment, raw materials, waste, debris, or other products containing lead if, in any foreseeable way, these products could produce levels of airborne lead which might constitute a threat to health. These caution labels shall state:

**CAUTION
CLOTHING CONTAMINATED WITH LEAD
DO NOT REMOVE DUST BY BLOWING OR SHAKING
DISPOSE OF LEAD CONTAMINATED
WASH WATER IN ACCORDANCE WITH APPLICABLE LOCAL,
STATE OR FEDERAL REGULATIONS**

f. Lunch Rooms and Personal Hygiene

(1) NPS Departments shall provide lunchroom facilities for employees who work in areas where their airborne lead exposure is above the PEL (without regard to the use of respirators).

(2) When NPS Department locate lunch facilities adjacent to the lead work area, such facilities shall have a positive pressure, filtered air supply and be readily accessible to employees.

(3) Employees and/or contractors shall remove protective clothing and equipment before entering lunchroom facilities.

(4) Workspace owners shall prohibit eating, drinking, chewing or the use of tobacco products, the application of makeup and storage of food and tobacco products in lead work areas.

(5) Lead workers shall wash their hands and face prior to eating, drinking, using tobacco products or applying cosmetics.

2005. Environmental Protection Procedures

a. All lead purchases MUST be approved by the NPS HMC&M prior to any contract award to ensure proper HAZMAT accountability.

b. NPS Departments shall require, prior to disposing of hazardous lead waste, bagging in heavy duty plastic bags or other impermeable containers and labeling with caution labels described in paragraph 2004.e.(2). Personnel shall label lead waste containers such as bags, trash cans, dumpsters, etc., "LEAD WASTE ONLY" and exercise care to prevent bags and other containers from rupturing when being moved to a dumpster or other suitable vehicle for transport to a hazardous waste disposal site.

c. NPS Departments shall dispose of lead containing materials utilizing the NSAM Environmental office's SOP's and disposal requirements. Additionally, departments will contact the NPS HMC&M coordinator and notify him/her of the material that was disposed for accountability purposes.

d. All lead transport shall be accomplished through coordination with the NSAM Environmental Office and the NPS HMC&M coordinator.

2006. Training

All NPS personnel who work in areas where the potential exists for lead exposure at or above the action level, or for whom the possibility of skin or eye irritation exists shall receive initial training prior to or at time of assignment and at least annually thereafter.

NOTE:

All NPS personnel in a workplace in which there is a potential for exposure to airborne lead at any level shall be informed of the contents of appendices A and B of reference 20-1, and to any related documents, all of which are available at no charge from the Department of Labor (DOL). In addition, NPS personnel shall receive, upon request, any other handout type materials in use or related to the training program.

2007. Industrial Hygiene Surveillance

The NPS servicing IH will evaluate all workplaces at least annually,

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or more frequently if necessary where lead is used; and will reevaluate the operation within 5 workdays of any work process or control change. Where the potential for personal contamination or exposure from inhalation of airborne lead particulate is found, a workplace monitoring plan will be established to characterize exposures for all personnel who are occupationally exposed. Supervisors shall notify the appropriate Safety or IH personnel of new lead operations, or changes in existing ones, in their areas.

2008. Employee Notification

Within 5 working days after the receipt of monitoring results, the command shall notify each employee in writing of his/her exposure monitoring results. Whenever the results indicate that the employee was exposed above the PEL, without regard to respirator use, the written statement shall include that fact and a description of the corrective action(s) taken to reduce the individual's exposure.

2009. Medical Surveillance

a. General. This program consists of four basic elements:

- (1) Pre-placement medical evaluation.
- (2) Semi-annual blood lead monitoring.
- (3) Follow-up medical evaluations based on the results of blood lead analysis and physician opinion.
- (4) A Termination examination identical in scope to the baseline examination will be conducted just prior to the reassignment or termination of a person from a job requiring medical surveillance, unless a medical evaluation was completed within the past twelve months.

NPS Departments shall include personnel in this program when industrial hygiene surveillance indicates that they perform work or are likely to be in the vicinity of an operation which generates airborne lead concentrations at or above the AL for more than 30 days per year.

b. Administrative Procedures

(1) Employee Notification. Upon receipt of lead monitoring results, the specific NPS department shall forward/notify any NPS personnel of the results, within 5 working

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days after receipt of results, when his/her blood lead level is at or above 40 $\text{mg}/100\text{g}$ whole blood:

(a) His/her blood lead concentration level, as reported.

(b) That the regulations require temporary medical removal with Medical Remove Protection benefits when, and if, the employee's blood lead level exceeds the current numerical criterion for medical removal under reference 20-1.

(2) Employee Counseling. A qualified physician shall counsel personnel regarding any abnormalities detected during any medical screening test. The physician shall make an entry into the employee's medical record that describes the counseling given. The employee shall countersign this entry. A copy of the physician's written opinion countersigned by the employee can satisfy this requirement, and reference 20-9 provides a sample written opinion with space for an employee signature.

2010. Work Performed by Private Contractors

a. Reference 20-10 should be used on construction projects impacting material containing lead and/or paint with lead. Reference 20-11 should be used lead-based paint hazards abated as defined by Public Law 102-550 Title X - Residential Lead-Based Paint Hazard Reduction Act of 1992.

b. NPS Contract administrators shall insure that each contract, for work performed by an independent contractor in the United States or overseas which may involve the release of lead dust, shall incorporate the appropriate references and clauses to ensure that:

(1) The contractor is aware of the potential hazard to his/her employees and Navy personnel.

(2) The contractor complies with references 20-1, 20-2, 20-3, and 20-12 to protect his/her employees, as well as Navy personnel.

(3) The contractor shall control lead dust outside of the work boundary to less than 30 mg/m^3 at all times, and shall perform sufficient monitoring to confirm that this level of control is maintained. In addition, the controlled work area(s) shall meet these criteria prior to release for unrestricted access. Contractors shall provide copies of their monitoring results to the cognizant industrial hygienist via the contract administrator.

Chapter 20 References

20-1. Title 29 Code of Federal Regulations (CFR) 1910.1025, Lead (as amended)

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=10030.

20-2. Title 29 CFR 1926.62, Lead in Construction

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10641.

20-3. OPNAVINST 5100.19 Series, Navy Occupational Safety and Health Program Manual for Forces Afloat

<http://doni.daps.dla.mil/allinstructions.aspx?RootFolder=%2fDirectives%2f05000%20General%20Management%20Security%20and%20Safety%20Services%2f05%2d100%20Safety%20and%20Occupational%20Health%20Services&View=%7b1FF912B1%2d1BC6%2d444A%2d8943%2dB769C77880F2%7d>

<http://www.safetycenter.navy.mil/instructions/afloat/510019D.htm>

20-4. Title 29 CFR 1910.94, Ventilation

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARD&p_id=9734.

20-5. American Conference of Governmental Industrial Hygienists Pub. No. 2096, Industrial Ventilation: A Manual of Recommended Practice, 27th Edition (NOTAL)

<http://www.acgih.org/store/ProductDetail.cfm?id=480>.

20-6. American National Standards Institute (ANSI) Z9.2-2006, American National Standard for Fundamentals Governing the Design and Operation of Local Exhaust Ventilation Systems (NOTAL)

<http://www.ansi.org/>.

20-7. UFC 3-410-04N of 25 Oct 04, Design: Industrial Ventilation

http://www.wbdg.org/ccb/DOD/UFC/ufc_3_410_04n.pdf

20-8. Industrial Hygiene Field Operations Manual, NEHC Technical Manual, NEHC-TM IH 6290.91-2 Rev B of March 1999,

http://www.nmcphc.med.navy.mil/Occupational_Health/Industrial_Hygiene/ih_fieldops_manual.aspx

20-9. Navy and Marine Corps Public Health Center Technical Manual, NMCPHCNMCPHC-TM OM 6260 July 2011, Medical Surveillance Procedures Manual and Medical Matrix (Edition 11)

<http://www.nmcphc.med.navy.mil/downloads/occmcd/MedicalMatrix11.pdf>

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20-10. UFGS-02 83 13.00 20, Lead in Construction, April 2006,
<http://www.wbdg.org/ccb/DOD/UFGS/UFGS%2002%2083%2013.00%2020.pdf>

20-11. UFGS-02 82 33.13 20, Removal/Control and Disposal of Paint
with Lead, February 2010,
<http://www.wbdg.org/ccb/DOD/UFGS/UFGS%2002%2082%2033.13%2020.pdf>

20-12. Title 29 CFR 1910.134, Respiratory Protection
[http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARD
S&p_id=12716.](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARD&p_id=12716)

20-13. Centers for Disease Control and Prevention, Guidelines for the
Identification and Management of Lead Exposure in Pregnant and
Lactating Women, November 2010
<http://www.cdc.gov/nceh/lead/publications/leadandpregnancy2010.pdf>

Chapter 21
Non-Ionizing Radiation

2101. Discussion

Non-Ionizing radiation safety at Naval Postgraduate School (NPS) is comprised of Radio Frequency and Laser safety and is promulgated by references 21-1 and 21-2.

Chapter 21
References

21-1. NAVPGSCOL Instruction 5100.27 Laser (Non-Ionizing Radiation) Hazards Control Program

21-2. NAVPGSCOL Instruction 6055.11, Radio Frequency Safety Program for Naval Postgraduate School

CHAPTER 22
ERGONOMICS PROGRAM

2201. Discussion

a. Ergonomics is the study of work and workplace design in relation to peoples' physiological and psychological capabilities. The goal of the Ergonomics Program is the scientific design of the workplace, machines, and work tasks with capabilities and limitations of the human being in mind. This chapter summarizes the requirements found in reference 22-1.

b. The Ergonomics Program seeks to prevent injuries and illnesses by applying ergonomic principles to identify, evaluate, and control ergonomic risk factors for work-related musculoskeletal disorders (WMSDs). These risk factors are workplace conditions that pose a biomechanical stress to a worker's body as a consequence of posture and force requirements, work/rest regimens, repetition rate, or similar factors.

c. WMSDs are disorders of the musculoskeletal and nervous systems occurring in the upper or lower extremities and in the spine. This category of injuries includes both cumulative trauma disorders (repetitive stress or motion) and overexertion injuries (sprains and strains). Examples of WMSDs include, but are not limited to, tendinitis, tenosynovitis, bursitis, hand and arm vibration syndrome (HAVS), Raynaud's syndrome of occupational origin, vibratory white finger (VWF), lower back strain, carpal tunnel syndrome, thoracic outlet syndrome, disc injuries, tennis elbow, golfers elbow, trigger finger, and DeQuervains Disease.

d. Naval Postgraduate School's (NPS) Ergonomics Program is designed to prevent injury and illness by identifying, evaluating, and controlling ergonomic hazards. Ergonomic hazards involve one or more of the following:

- (1) repetitive and prolonged static activities
- (2) forceful exertion
- (3) awkward posture
- (4) excessive vibrations from power tools or vehicles
- (5) lack of adjustability in work station

(6) physiological stress induced by heat, environmental extremes, shiftwork, or extended work schedules

These hazards are controlled by implementing engineering changes, altering work practices, establishing administrative controls, and providing appropriate worker and supervisor training.

2202. Responsibilities

a. NPS Occupational Safety, Health, and Environmental (OSHE) Directorate is responsible for:

(1) Conducting ergonomics worksite analysis through inspections of workspaces to identify persons, equipment operations, and facilities at high risk.

(2) Performing ergonomic assessments of employee workspaces upon request.

(3) Providing recommendations to remediate any WMSD incidents or ergonomic hazards.

b. Naval Support Activity Monterey (NSAM) Safety Office may offer support to NPS by performing all of the duties described in paragraph 2202 and reference 22-1 provided that they maintain no less than 3 full time employees.

c. Supervisors and Principal Investigators (PIs) are responsible for enforcing the rules for safe work practices established at their work site, and will ensure that personnel reporting to them receive appropriate training and medical surveillance. They will set an example to subordinates by following established work practices to prevent WMSD injuries. In addition, supervisors and PIs should request ergonomic support from the NPS OSHE Directorate when personnel have ergonomic concerns or experience ergonomic-related symptoms.

d. Personnel are responsible for reporting ergonomic concerns and/or symptoms to their supervisors or to the NPS OSHE Directorate.

2203. Ergonomics and Back Injury Prevention Training.

Ergonomics and Back Injury Prevention training requirements for NPS personnel is determined based on the results of employee comfort surveys, workplace inspections, and mishap analysis.

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Ergonomics & Back Injury prevention training is provided via ESAMS. Departments and/or employees that may desire to receive such training, are encouraged to participate in the Ergonomics training program.

Chapter 22
References

22-1. OPNAVINST 5100.23 (series), Navy Occupational Safety and Health (NAVOSH) Program Manual

CHAPTER 23
HAZARDOUS ENERGY CONTROL PROGRAMS
(LOCKOUT\TAGOUT)

2301. Discussion

Personnel can be seriously or fatally injured if machinery, equipment or processes (MEP) they service or maintain unexpectedly energizes, starts up, or releases stored energy such as electrical, mechanical, thermal, and potential energy sources (gravity, hydraulics, pneumatic, compression). Lockout/Tagout (LOTO) refers to specific practices & procedures to safeguard personnel from the unexpected energization or start-up of MEP or the release of hazardous energy during service or maintenance activities. This requires in part that a trained, designated individual(s) turns off and disconnects the MEP from its energy source(s) prior to performing service or maintenance and that the authorized employee(s) lock the energy-isolating device to prevent the release of hazardous energy and take steps to verify that the energy has been isolated effectively. Lock-out devices hold energy isolation devices in a safe or off position. They provide protection by preventing machines or equipment from becoming energized because they are positive restraints that no one can remove without a key or other unlocking mechanism.

2302. Scope and Applicability

The requirements of the LOTO program are applicable to all faculty, staff, and students, temporary/term, contract, and permanent employees as well as visitors who may be engaged in the following:

- a. Servicing or maintaining equipment in which the unexpected energization on start-up of MEP or release of stored energy could cause injury.
- b. Operating equipment that is being serviced or maintained.
- c. Working in an area in which a LOTO System is being implemented.
- d. Contractors currently do not fall under the direct purview of the NPS LOTO program. However, all safety policies and responsibilities should be delineated in the contract prior to the contractor commencing any work.

NOTE:

LOTO program requirements do not apply to work on cord and plug connected equipment where the unexpected energization or start-up is controlled by unplugging such equipment and the plug is under the exclusive control of the employee performing the servicing or maintenance.

2303. LOTO Program Requirements

29 CFR 1910.147 establishes OSHA's requirements for controlling hazardous energy. The standard specifies that employers must establish an energy control program (COMANVREGSWINST 5100.11E, Ch. 24) to ensure that employees isolate MEP's from their energy sources and render them inoperative before any employee services or maintains them. A brief listing of some of the program requirements are as follows:

a. If an energy isolating device is not capable of being locked out, a tag-out system that demonstrates that the tag-out program will provide a level of safety equal to that obtained by using a lock-out program, may be utilized in accordance with 29 CFR 1910.147 (c)(2).

b. When LOTO is required, specific written energy control procedures shall be developed for each MEP in accordance with 29 CFR 1910.147 (c) (4).

c. Locks, tags, chains, wedges, key blocks, adapter pins, self-locking fasteners or other hardware shall be provided by the employer for isolating, securing or blocking of MEP from energy and shall be singularly identified and shall be the only devices used for controlling energy and shall not be used for other purposes in accordance with 29 CFR 1910.147 (c)(5).

d. Employees "authorized" to implement LOTO shall be designated in writing and shall receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control. Each affected employee shall be instructed in the purpose and use of the energy control procedure. All other employees whose work operations are or may be in an area where energy control procedures may be utilized, shall be instructed about the procedure, and about the prohibition relating to attempts to

restart or reenergize MEP which is under LOTO in accordance with 29 CFR 1910.147 (c)(7).

2304. Responsibilities

a. Naval Postgraduate School (NPS) Occupational Safety, Health and Environmental(OSHE) Directorate is the POC for all issues/question regarding LOTO. Their responsibilities include but are not limited to:

(1) Developing and maintaining the program required by reference 23-1 and the applicable standards.

(2) Providing guidance on the interpretation of this procedure.

(3) Assisting with provision of training to ensure compliance with this procedure.

(4) Annual auditing compliance with established NAVFACSW Monterey Site energy control procedures.

(5) Approve the equipment or applications where tagout may be used in place of lockout (and maintain a list of approvals). Each request of equipment of application variance allowing only tagout shall be submitted to the NPS OSHE Directorate office with sufficient documentation demonstrating that an equivalent means of lockout protection will be achieved allowing full employee protection.

b. Departmental managers/supervisors are responsible for:

(1) Surveying their work areas to identify MEP that utilize hazardous energy sources requiring the need for LOTO implementation when performing service/maintenance.

(2) Designating in writing a listing of authorized personnel who locks out or tags out MEP in order to perform maintenance on them. This listing shall be provided to the NPS OSHE Directorate office.

(3) Ensuring authorized and affected employees receive appropriate LOTO training.

(4) Ensuring that equipment - specific energy control procedures are established for the MEP within their Area of

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Responsibility (AOR) that requires LOTO implementation. Such procedures shall be approved by the NPS OSHE Directorate.

(5) Ensuring that only authorized employees perform service or maintenance on MEP under LOTO. Providing protective equipment, hardware and appliances (e.g., locks, lockout devices, keys, tags, etc.) conforming to the provisions of this procedure to employees requiring this equipment.

(6) Designating the authorized employee who has primary responsibility for overall lockout/tagout control in a group lockout situation.

(7) Keeping a log of lockout/tagout device application and removal, including: the person applying lock/tag; purpose of lockout/tagout; anticipated duration of lockout/tagout; and actual date of removal of locks/tags.

(8) Maintaining exclusive control of duplicate of master keys.

c. NPS Personnel shall comply with the provisions of reference 23-4 and 23-5. Failure to so may result in disciplinary action.

Chapter 23
References

23-1. OPNAVINST 5100.23 (series) Navy Occupational Safety and Health (NAVOSH) Program Manual

23-2. Title 29 Code of Federal Regulations (CFR) 1910.269, Electric Power generation, Transmission, and Distribution

23-3. National Fire Protection Agency (NFPA) 70E, National Electrical Code

23-4. Title 29 Code of Federal Regulations (CFR) 1910.147, The control of hazardous energy (lockout/tagout)

23-5. COMANVREGSWINST 5100.11E

CHAPTER 24
POLYCHLORINATED BIPHENYLS (PCBs)

2401. Discussion

a. Polychlorinated biphenyls (PCBs) are a class of organic compounds with 2 to 10 chlorine atoms attached to a biphenyl, (i.e., a molecule composed of two benzene rings). PCBs are no longer produced in the United States; however many of the Navy's older vessels contain PCBs that were incorporated during their construction prior to 1977. PCBs were common in insulation material, electrical cable, ventilation gaskets and in closed loop applications (e.g., capacitors, transformers, hydraulic fluids). Exposures could still arise from removing PCB-impregnated felts or gaskets, working with synthetic rubber and plasticizers, retrofilling PCB-containing electrical transformers (ashore), etc.

b. In general, polychlorinated biphenyls (PCBs) do not present a major human health hazard. The only human health hazard that has been definitely associated with prolonged exposure to liquid PCBs is a type of skin lesion characterized as chloracne; however, PCBs are regulated as air contaminants by reference 25-1. Reference 25-2 also assigns a skin designation for PCBs that denotes the ability to be absorbed through the skin.

2402. Responsibilities

a. Naval Postgraduate School (NPS). NPS is responsible for:

(1) Ensuring that NPS personnel working with PCBs have received appropriate training and use correct PPE.

(2) Ensuring that NPS personnel who meet the exposure criteria outlined in reference 24-4, and as determined by the servicing industrial hygienist, are added to appropriate medical surveillance programs.

b. Principle Investigators (PIs). PIs shall:

(1) Provide training to subordinates on the proper PPE usage and PCB handling before any work involving PCBs is done.

(2) Utilize the Medical Surveillance and Certification Examination Referral and Disposition Form (MSCERD) when notifying any personnel of a requirement to enroll in a medical

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surveillance program. Additionally, PI's shall email a list of any new personnel enrollment referrals to the NPS OSHE Directorate Medical Surveillance program manager.

c. NPS Personnel are required to:

(1) Correctly wear all required PPE when required by reference 24-1.

(2) Follow all precautions described in references 24-1 and 24-2.

(3) Schedule and attend requisite medical screenings at the US Army Health Clinic, US Army Presidio of Monterey if enrollment in a medical surveillance program is deemed necessary.

d. Servicing Industrial Hygienist (IH). The Servicing IH will:

(1) Determine the need to perform air sampling for PCBs for workspaces.

(2) Make recommendations based on air sampling data results if personnel would require additional PPE or enrollment in a medical surveillance program.

2403. General Workplace Control Practices

a. For situations not exceeding the Permissible Exposure Limits (PELs) and not involving unprotected PCB skin contact, NPS shall employ routine work and personal hygiene measures appropriate for any occupational setting.

b. When working with PCB-impregnated materials, such as insulating felts, or with articles that contain liquid PCB solutions, personnel shall strictly observe good housekeeping procedures to avoid the possibility of secondary surface contamination.

c. Employees involved in PCB-related work activities shall not eat, drink, smoke, chew tobacco or gum or apply cosmetics in the work area.

d. Personnel shall not perform hot work in the immediate area when work is performed with PCB material.

2404. Personal Protective Equipment

a. Personnel engaged in handling PCB-contaminated or PCB-impregnated material (such as "rip out" or "stripping" operations), during which skin contact with PCBs is considered probable, shall wear the following PPE:

(1) Full-body, one-piece disposable coveralls constructed of Tyvek[®] material or comparable substitute material.

(2) Nitrile or Viton[®] gloves.

(3) Nitrile or neoprene foot coverings if the work involves the probability of foot contamination by any means.

(4) Face shields and vented goggles or other appropriate eye protective equipment wherever the possibility of eye contact exists.

b. If work situations exist where it is likely that workers' clothing will become saturated with PCB-containing liquids, personnel shall use protective clothing materials having "greater than 24 hours" breakthrough times against PCBs, as listed in reference 24-3. The following PPE is recommended if saturation is anticipated:

(1) Saranex[®]-coated Tyvek[®] coveralls for whole body protection.

(2) Viton[®] rubber for gloves and foot coverings.

(3) Face shields and chemical goggles for eye protection.

c. Respiratory Protection

(1) Under most conditions, air-sampling data will be used to determine the necessity for wearing respiratory protection. The BUMED servicing industrial hygienist (servicing IH) will determine the need to perform air sampling for PCBs.

(2) If air sampling results indicate that the PELs for PCBs have been exceeded, personnel shall use a supplied air respirator that has a full face piece and is operated in the pressure-demand or other positive-pressure mode.

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(3) Use of respirators shall comply with the requirements of chapter 14 of this instruction.

(4) When selecting respiratory protection for PCB decontamination, the servicing IH should give consideration to the solvent being used, the potential airborne concentration of the solvent, and the possible presence of chlorinated dioxins and furans.

2405. Medical Surveillance Program

Any personnel who meet the exposure criteria outlined in reference 24-4, and as determined by the servicing IH, shall be enrolled in the appropriate medical surveillance program.

Chapter 24
References

- 24-1. OPNAVINST 5100.23 (series); Navy Occupational Safety and health (NAVOSH) Program Manual, Polychlorinated Biphenyls (PCBs) Chapter
- 24-2. OPNAVINST 5090.1 (series, Environmental and Natural Resources Program Manual
- 24-3. American Conference of Governmental Industrial Hygienists (ACGIH) 3rd Edition, Guidelines for Selection of Chemical Protective Clothing (NOTAL),
<http://www.acgih.org/store/ProductDetail.cfm?id=246>.
- 24-4. Navy and Marine Corps Public Health Center Technical Manual NMCPHC-TM OM 6260 , Medical Surveillance Procedures Manual and Medical Matrix, of March 2010,
<http://www-nehc.med.navy.mil/downloads/occmcd/MedicalMatrix10.pdf>.
- 24-5. Title 29 Code of Federal Regulations (CFR) 1910.100 Subpart Z, Table Z-1-A, of 1 Jul 96, Limits for Air Contaminants
www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9992

CHAPTER 25
CHEMICAL-BIOLOGICAL-RADIOLOGICAL-NUCLEAR-EXPLOSIVE (CBRNE)

2501. Discussion

This chapter provides occupational safety and health guidance and direction on responsibilities for protective equipment, heat/cold stress, and the CBRN Respiratory Protection Program as they relate to CBRNE incidents. CBRNE incidents, like industrial explosions, fires or release of chemicals, require plans and policies to mitigate loss of life and property.

As of the drafting of this instruction, NPS does not contain, nor will it contain, enough CBRNE type materials to meet the OPNAV requirements for a full CBRNE program. While small quantities of CBRNE related materials do exist on campus, workspace SOP's, NAVFAC Environmental policies, and NPS OSHE Directorate instructions cover potential impacts, incidents, and the responses. See References 25-1 thru 25-8.

Chapter 25
References

- 25-1. OPNAVINST 5100.23(series), Navy Safety and Occupational Health Program Manual
- 25-2. NPSINST Chemical Safety
- 25-3. NPSINST Chemical Hygiene
- 25-4. NPSINST Biological Safety
- 25-5. NAVSEA S0420-AA-RAD-010 (current version), Radiological Affairs Support Program Manual
- 25-6. NPSINST 6470.1 (current version), Radiation Safety Instruction for Naval Postgraduate School.
- 25-7. NAVPGSCOLINST 6470.13 (current version), Radiation Safety Instruction for Naval Postgraduate School Naval Radioactive Material Permit 04-62271-D1NP.
- 25-8. Naval Support Activity, Monterey, Physical Security Plan.

CHAPTER 26
CONFINED SPACE ENTRY (CSE) PROGRAM

2601. Discussion

a. Confined Spaces (CS) are enclosures that have limited means of entry and exit, and although they are large enough to get into, they are not designed for continuous employee occupancy. To protect employees from the hazards that may be present in a CS, Navy policy states that all such spaces will be considered hazardous. Entry into such spaces is prohibited until the space has been evaluated by a qualified person and a Confined Space Entry Permit (CSEP) has been issued.

b. CSs will be tested for oxygen content, upper and lower explosive levels (UEL and LEL) of flammable vapors and gases, and toxic concentrations. They also will be evaluated for all other hazards and unsafe conditions. Before permitting employee entrance, hazardous conditions will be eliminated or reduced to an acceptable level. Periodic monitoring will be conducted when processes or operations such as welding, cutting, or other hot work are likely to generate hazardous conditions. Combustible atmospheres may be generated by using paints, epoxies, or adhesives; performing cleaning operations or sludge removal; and performing similar tasks that have the potential for releasing toxic, flammable, or asphyxiating vapors.

c. Aboard NPS, NAVFAC is the CS program owner and manager. NPS does not operate or maintain its own CS program. The material provided in this chapter is for reference only as it pertains NPS personnel's responsibilities and NPS leadership expectations when dealing with any CS items.

2602. Applicability

a. The provisions of this chapter and references shall apply to all Naval Postgraduate School (NPS) Civilian employees and Military Personnel.

b. The provisions of this chapter do not apply to contractors. For operations involving contractors, refer to paragraph 2604.f.

2603. Definitions

a. Confined Space (CS). A space that is not designed for routine and/or continuous occupancy, is large enough and so

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configured that an employee can enter to perform work, and is poorly ventilated and/or has limited or restricted means of entry or exit. Examples of confined spaces include manholes, steam pits, storm sewers, electrical and telephone vaults, fuel storage tanks, vessels used in research such as Marx tanks, pressure chambers, and other such enclosed spaces.

b. Confined Space Program Manager (CSPM). An individual who has successfully completed Confined Space Safety training and has been appointed, in writing, by the Commanding Officer to implement a comprehensive Confined Space Entry Program.

c. Confined Space Entry Permit (CSEP). A special written permit/form (HQ-NRL 5100/7) issued by the CSPM or a qualified person under the direction of the CSPM, authorizing entry into certain CSs under a given set of conditions and safety precautions.

d. Permit Required Confined Space (PRCS). A CS that requires a special permit for entry because it contains, or has a known potential to contain, an atmospheric condition meeting the requirements of a Class I (IDLH), Class II (dangerous), or Class III (contaminated) space; contains, or has a known potential to contain, a material that could engulf or overcome an entrant; has an internal configuration such that an entrant could be trapped or asphyxiated; or contains any other recognized serious safety or health hazard, as determined by the CSPM.

e. Qualified Person (QP). An individual trained and certified (in writing) by the CSPM to perform tests, issue permits, and perform other specific tasks related to CS entry.

2604. Responsibilities

a. Naval Facilities Engineering Command Region South West (NAVFACSW). NAVFACSW is responsible for designating in writing a CSPM to perform all of the duties required of a CSPM as instructed by reference 26-1. Duties of the CSPM include but are not limited to:

(1) Ensuring, to the extent feasible, that surveys of the installation are conducted to identify existing and potential confined spaces.

(2) Ensuring, to the extent feasible, that the hazards associated with each identified confined space are characterized to the extent necessary to minimize losses.

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(3) Reclassifying spaces as "non-permit required" in accordance with the Command's written program.

(4) Reviewing and approving the purchase of equipment required for confined space entry.

(5) Auditing the training of those employees involved in confined space entry to assure that they are able to demonstrate proficiency in the requirements of the installation's confined space program.

(6) Auditing line managers, supervisors and designated QPs to verify that they continue to demonstrate proficiency in the discharge of their duties and responsibilities related to confined space entry.

(7) Ensuring, to the extent feasible, that effective procedures for managing confined space entry work performed by independent contractors are in place.

(8) Ensuring, to the extent feasible, that entry permits/entry certificates are reviewed on a periodic basis sufficient to allow identification of problems that could compromise the confined space entry program, and to assure that identified deficiencies are investigated and corrected prior to subsequent entry into the installation's confined spaces.

(9) Determining when it is necessary to obtain the assistance of outside professional resources.

b. Assistant Confined Space Program Manager (ACSPM). The ACSPM may be authorized to perform duties equivalent to those of the CSPM. The CSPM shall in writing delineate the specific duties and responsibilities of the ACSPM.

c. Qualified Person.(QP). QP's duties and responsibilities include but not limited to:

(1) Performing atmospheric testing and inspecting for physical hazards in confined spaces.

(2) Determining whether acceptable entry conditions exist, authorizing the entry, overseeing entry operations, terminating the entry, and canceling the entry permit.

(3) Is accountable for entry operation safety

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(4) Contacting the CSPM or ACSPM to inspect and provide entry permits when required.

(5) Informing the CSPM of any unauthorized deviations from the installation's confined space program or any problems that arise during confined space inspection.

c. NPS Supervisors. Supervisors' duties and responsibilities include, but are not limited to:

(1) Ensuring that workers under their control who enter confined spaces are informed of the hazards to which they may be exposed and have demonstrated proficiency in the skills necessary to protect themselves from those hazards.

(2) Ensuring that all special equipment required for entry is available and in proper working order.

(3) Confirming any person under their supervision that enters a CS is properly qualified to do so by NAVFAC.

(4) Auditing the work performed by employees under their control who enter confined spaces to assure that it conforms to this program as well as those programs integrated into it, such as lock-out/tag-out, respiratory protection, blood borne pathogens, etc.

(5) Informing the CSPM of any unauthorized digressions from the installation's confined space program or any problems that arise during confined space entry.

d. NPS Employees. Individual employees' duties and responsibilities include, but are not limited to:

(1) Minimizing their exposure to potentially hazardous conditions.

(2) Notifying their supervisors of any recognized uncontrolled hazards.

(3) Interceding with coworkers to stop inappropriate or hazardous behaviors that may result in injury or property damage.

(4) Not using defective equipment, and reporting defects to their supervisors.

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(5) Inquiring about the potential hazards to which they may be exposed to ensure that they know and understand the precautions they must take to protect themselves from those hazards.

(6) Using equipment and conducting themselves in a manner consistent with the training they have received.

e. Contracting Officer's Representative (COR). The Contract COR is responsible for:

(1) Requiring contractors entering CSs to have a CSE Program, and providing a copy of their CSE Program to the CSPM prior to the commencement of work.

(2) Requiring the contract's statement of work to comply with the requirements stipulated in reference 26-1 and 26-2.

(3) Requiring the contractor to provide a "competent person," as defined by reference 26-2, to perform tests, issue permits, and performs other specific tasks related to CS entry.

f. Contractor Operations are responsible for:

(1) Not entering CSs unless the COR has notified the CSPM and/or QP.

(2) Advising the COR that he/she must meet all requirements of reference 23-2 before entering an NPS CS.

(3) Providing the CSPM and/or QP with a list of all CSs they will enter.

(4) Ensuring that the contractor performs CS monitoring prior to entry.

(5) Performing their own monitoring and posting permits when they simultaneously occupy the same CS as NPS personnel.

(6) Being advised that Navy personnel cannot certify/evaluate CSs or issue CSEPs for contractor operations.

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Chapter 26

References

26-1. OPNAVINST 5100.23 (series), Navy Occupational Safety and Health (NAVOSH) Program Manual, Confined Space Entry (CSE) Program (Non-Maritime) Chapter

26-2. ANSI Z117.1-1995, Safety Requirements for Confined Spaces

CHAPTER 27
BLOODBORNE PATHOGENS

2701. Discussion

Naval Postgraduate School (NPS) does not have in its employee any individuals that have a reasonable potential for exposure to any blood borne pathogens. If this changes at any point, then the NPS Occupational Safety, Health and Environmental (OSHE) Directorate will provide guidance and assistance in formally establishing a Blood Borne Pathogens Program in accordance to reference 27-1 and 27-2 as part of NPS's commitment to provide a safe and healthful work environment for all employees.

2702. Exposure Control Plan

Reference 27-1 requires all employers with employees who may reasonably anticipate contact with blood or other potentially infectious materials while in the performance of their duties to establish a written Exposure Control Plan designed to eliminate or minimize employee exposure.

NPS does not have any employees that have a reasonable potential of exposure to blood borne pathogens at this time.

2703. Accidental Exposure

If any NPS employee is exposed, or suspects exposure, to any blood or other potentially infectious material, they are instructed to go to a hospital immediately.

Upon return from the hospital, employees are to report the incident to the NPS OSHE Directorate so an investigation and appropriate follow-up actions may begin.

2704. Responsibilities

a. Naval Postgraduate School (NPS). NPS is required by reference 27-1 and 27-2 to create an Exposure Control Plan and provide guidance and assistance for any employee that has a reasonable potential of exposure to blood borne pathogens in their line of work.

b. Supervisors are responsible to:

(1) Inform subordinates of any and all potential blood borne pathogen exposure that could occur in their line of duty

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and if it is required, inform them of the training described in paragraph 2705.

(2) Inform the NPS OSHE Directorate of any new potential exposure hazards.

(3) Instruct any subordinate that has been exposed to, or has potentially been exposed to, blood or other bodily fluid to immediately go to a hospital.

c. Employees should report to their Supervisors or to the NPS OSHE Directorate office, any suspected exposure risks so that the risk may be investigated and appropriate risk reduction actions may be taken.

d. Researchers. Researchers and PIs are required to contact the NPS OSHE Directorate office prior to beginning any research which involves the handling of blood, tissues, bodily fluids, or any kind of biological hazards.

e. Contractors. Contractors are required to develop their own blood borne pathogens program and Exposure Control Plan in accordance with reference 27-1.

2705. Training

Blood Borne Pathogens Training. This training is required for the following personnel and their supervisors: emergency response teams, fire and police department personnel, lifeguards, child care workers, Youth Activity Center workers, gym personnel, barbers, and first aid responders and all other personnel who can reasonably be anticipated to have occupational exposure to Blood Borne Pathogens (BBP) or Other Potentially Infectious Materials (OPIM). Training is available via ESAMS and is provided by the servicing Industrial Hygienist. NPS employees requiring such BBP Awareness training shall complete training by reviewing the Blood Borne Pathogens training module on ESAMS per appendix 5-A.

Chapter 27

References

27-1. Title 29 Code of Federal Regulations (CFR) 1910.1030, Bloodborne Pathogens, http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=10051.

27-2. OPNAVINST 5100.23 (series); Navy Occupational Safety and Health (NAVOSH) Program Manual, BloodBorne Pathogens Chapter

CHAPTER 28
OCCUPATIONAL REPRODUCTIVE HAZARDS

2801. Discussion

A reproductive hazard is defined as any occupational stressor that has the potential to adversely affect the human reproductive process. The goal of the NPS Occupational Reproductive Hazards Program is to provide a safe and healthful workplace that will not damage or affect a person's fertility or offspring. In addition, the Program offers guidance and assistance in keeping personnel and contractor exposure to all reproductive chemical stressors as low as reasonably possible.

2802. Responsibilities

a. Naval Postgraduate School (NPS) Occupational Safety, Health and Environmental (OSHE) Directorate and the Naval Support Activities Monterey (NSAM) Occupational Safety and Health (OSH) and Environmental Office are responsible for:

(1) Providing guidance on which Personal Protective Equipment (PPE), including respirators, to any personnel requesting it.

(2) Conducting chemical reproductive hazards training for potentially exposed personnel under the Occupational Safety and Health (OSH) Hazard Communication New NPS Employee Orientation Program.

(3) Assisting personnel, and their supervisors, in acquiring technical information and/or documentation for completing the Occupational Exposure of Reproductive and Developmental Concern - Supervisor's and Worker's Statements (see reference 28-2.)

(4) Updating the NPS Hazardous Material Inventory by identifying workplace reproductive chemical hazards.

(5) Advising the shop supervisor concerning administrative controls, product substitutions, engineering controls, and PPE.

b. Supervisors are responsible for:

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(1) Reporting new operations involving reproductive hazards, or changes in existing operations, to the BUMED servicing industrial hygienist (servicing IH) and the NPS OSHE Directorate office.

(2) Ensuring that recommended control measures are applied to processes using materials containing reproductive hazards.

(3) Ensuring that, where feasible, materials containing reproductive hazards are replaced by less hazardous materials.

(4) Ensuring that personnel under their supervision attend required training.

c. Personnel and Contractors are responsible for:

(1) Wearing PPE when required.

(2) If concerned, informing their supervisor as soon as possible that they are pregnant.

(3) Reporting to their private physician or local Occupational Health Clinic and with help from their cognizant supervisor, complete the "Occupational Exposure of Reproductive and Developmental Concern - Supervisor's and Worker's Statements" from reference 28-2.

d. Local Occupational Health Physician or Nurse is responsible for:

(1) Interviewing anyone occupationally exposed to a reproductive hazard and obtaining a health and work history; placing copies of the "Occupational Exposure of Reproductive and Developmental Concern - Supervisor's and Worker's Statements" in the person's medical file.

(2) Providing counseling to anyone who has directly or indirectly been exposed to potential reproductive hazards.

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Chapter 28
References

28-1. OPNAVINST 5100.23 (series); Navy Occupational Safety and Health (NAVOSH) Program Manual, Chapter 29

28-2. Navy Environmental Health Center Technical Manual NEHC-TM-OEM 6260.01A April 2006

CHAPTER 29
INDOOR AIR QUALITY MANAGEMENT

2901. Discussion

Poor indoor air quality (IAQ) detracts from the quality of the work environment. Problems such as uncomfortable air temperature and humidity can decrease productivity. The goal of the IAQ Program at Naval Postgraduate School (NPS) is to increase the level of comfort and productivity in the work environment by making an effort to evaluate, maintain, and improve IAQ.

2902. Responsibilities

a. The BUMED Assigned servicing Industrial Hygienist (Servicing IH) (primarily), NPS Occupational Safety, Health, and Environmental (OSHE) Directorate personnel, Naval Support Activities Monterey (NSAM) and Environmental and Occupational Safety and Health (OSH) department Representatives are responsible for:

- (1) Determining the cause of any IAQ problem in conjunction with local facilities maintenance staff members.
- (2) Initiating and conducting an IAQ investigation.
- (3) Verifying that an effective program of routine inspections and preventive maintenance of all Heating, Ventilating, and Air Conditioning (HVAC) systems and spaces is developed and implemented.
- (4) Performing environmental monitoring to substantiate findings.
- (5) Coordinating with the Presidio of Monterey U.S. Army Health Clinic (POMAHC) with regard to medical concerns brought up in the investigation.
- (6) Making recommendations for correction of problems.

b. Naval Facilities Engineering Command (NAVFAC) Public Works (PW) is responsible for:

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(1) Ensuring that IAQ issues are considered in the design plans of new buildings as well as in building modification plans.

(2) Ensuring that new building designs adhere to American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE) standards contained in references 29-2 and 29-3.

c. Supervisors are responsible for:

(1) Ensuring that personnel concerns regarding poor IAQ in their work area are addressed.

(2) Coordinating IAQ issues with their respective department chairs, the NPS OSHE Directorate office, NSAM OSH office, and NAVFAC.

d. Personnel, when working in a building with an indication of poor IAQ, are responsible for reporting the problem to their immediate supervisor.

2903. IAQ in the Workplace.

Multiple causes of poor IAQ exist, any one of which could decrease the quality of the work environment. Some examples are:

- a. Unacceptable humidity ranges
- b. Carbon Dioxide levels
- c. Off-gassing chemicals
- d. Environmental tobacco smoke
- e. Biological contamination
- f. Building modifications

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Chapter 29
References

29-1. OPNAVINST 5100.23 (series); Navy Occupational Safety and Health (NAVOSH) Program Manual, Chapter 30

29-2. American Society of Heating, Refrigeration, and Air Conditioning Engineers Standard 55-1992, Thermal Environmental Conditions for Human Occupancy, 1992 (NOTAL)

29-3. American Society of Heating, Refrigeration, and Air Conditioning Engineers Standard 62-2001, Ventilation for Acceptable Indoor Air Quality, 2001 (NOTAL)

CHAPTER 30
WEIGHT HANDLING SAFETY

3001. Scope

This Chapter applies to Naval Postgraduate School (NPS), including all weight-handling equipment (WHE) under the operational cognizance of NPS, and/or operated by NPS personnel and contractors.

3002. Information

Whenever cranes and/or other weight-handling equipment are operated, there is the potential for serious injury and property damage if the equipment is operated by untrained personnel or is not certified and maintained properly. Lifting loads improperly, attempting to hoist loads greater than the crane's rated capacity, maintaining cranes inadequately, or failing to load-test and certify cranes annually can cause catastrophic failure of the crane, resulting in personnel injury, loss of life, and/or serious property damage.

3003. Policy

The proper licensing, operation, maintenance, and safe handling of weight-handling equipment is regulated by reference 30-1 with responsibilities delineated therein. All department chairs, WHE operators, the NPS Occupational Safety, Health, and Environmental (OSHE) Directorate, and NPS work centers affected by reference 30-1 will become familiar with the contents of reference 30-1 and ensure strict compliance.

Chapter 30
References

30-1. NAVPGSCOL Instruction 5100.11(series), Maintenance
Management of Weight Handling Equipment

CHAPTER 31
NPS SAFETY AWARDS PROGRAM

3101. Purpose

There is not a separate NPS awards program for achievements in safety. However, it is appropriate to recognize Naval Postgraduate School (NPS) faculty or staff for significant contributions to the command safety program and culture, both on and off duty, using existing special act, on-the-spot, and performance awards programs. Achievements in safety can also be considered for recognition under the Department of the Navy civilian honorary awards program and the active duty military personal awards program.

3102. Nature of Recognition

Appreciating the extremely important role that safety plays within the day to day work activity of our greatest asset - our people, NPS desires to recognize individual members of the faculty or staff for their accomplishments. Recognition can and should come in many forms in order to provide positive feedback on superior job performance. Those recognizing achievements in safety are strongly encouraged to request coverage from the NPS Public Affairs in order to communicate achievements in safety in command information streams and venues help to build a superior safety culture.

3103. Policy

a. The NPS OSHE Directorate will submit the command's nominee, if any, for the CNO individual safety award by 31 Dec each year in accordance with ref 31-1, Ch. 31.

b. To recognize outstanding efforts in risk management and mishap prevention, the CNO Safety Shore Activity Awards Program provides recognition to a command with the best overall command safety program record; and to individuals who have made significant contributions to a command/activity or overall safety program. The awards recognize outstanding contributions to operational readiness and conservation of resources through effective risk management. In addition to outstanding safety records, activities selected must have aggressive, innovative mishap prevention programs. These awards recognize excellence and are not to be confused with recognition for safety improvements (e.g., suggestion, invention, special achievement) under the provisions of the incentive awards program, described

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NPSINST 5100.1
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in reference 31-2. The NPS OSHE Directorate will submit any appropriate nominations for NPS or NPS personnel for CNO Safety Awards in accordance with reference 31-3. Appendix 31-A lists the CNO Awards Selection Criteria.

Chapter 31
References

31-1. OPNAVINST 5100.23(series), NAVY SAFETY AND OCCUPATIONAL HEALTH PROGRAM

<http://doni.daps.dla.mil/OPNAV.aspx?RootFolder=%2fDirectives%2f0500%20General%20Management%20Security%20and%20Safety%20Services%2f05%2d100%20Safety%20and%20Occupational%20Health%20Services&View=%7bDEF0EB11%2d3785%2d4F67%2dB5A1%2dAE9F8EB752BC%7d>

31-2. SECNAVINST 5305.4B of 20 July 2010, Secretary of the Navy Safety Excellence Awards

<http://doni.daps.dla.mil/default.aspx>.

31-3. SECNAVINST 5100.15B SECRETARY OF THE NAVY AWARDS FOR ACHIEVEMENT IN SAFETY ASHORE

http://www.public.navy.mil/navsafecen/Documents/OSH/oshtable/SOH_Metrics/5100.15B.pdf

Appendix 31-A

CNO Awards Selection Criteria

Description

Chief of Naval Operations (CNO) Shore Safety Awards will be presented annually on a fiscal year basis to shore activities (including Fleet operational/support units located ashore) based on the overall quality of their safety programs, mishap prevention records, and contributions to the Navy's safety program. In addition, individuals will be recognized for their contributions to their command/region/activity and/or the Navy's safety program through CNO Individual Awards for Safety.

Award Categories

a. Region or Activity. Regions or activities in the following categories will compete for one award each per category.

(1) Industrial - Those activities whose primary mission is the production, maintenance, or rehabilitation of Navy equipment, material, or facilities. These include aviation depots, public works centers, shipyards, regional maintenance centers, and ship repair facilities. Test centers and research and development (R&D) facilities will compete in the non-industrial category.

(a) Small - activities with military and civilian working population of 1 - 1,000

(b) Medium - activities with military and civilian working population of 1,001 - 3,000

(c) Large - activities with military and civilian working population of 3,001 and greater

(2) Non-Industrial - Activities such as naval stations, air stations, supply depots, training centers, and medical centers will compete in this category.

(a) Small - activities with military and civilian working population of 1 - 800

(b) Medium - activities with military and civilian working population of 801 - 2,000

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(c) Large - activities with military and civilian working population of 2,001 and above

(3) Fleet Operational/Support Unit Ashore - one award - for those commands located ashore with sea or shore duty unit identification codes that are designated as fleet operating or fleet support units and are not eligible for surface ship or aviation safety awards. The safety program must be based on the shore safety requirements of OPNAVINST 5100.23G.

b. Individual. The CNO Individual Award for safety will be presented to one military officer, one military enlisted, and one Navy civilian for a total of three (3) awards. All civilian nominees must be performing safety duties either in a full-time or collateral status, or have made a significant contribution to their command's or the Navy's safety program in some other capacity related to safety.

Eligibility

a. Region/activity Awards. Regions and activities are eligible to compete for the award if:

(1) All industrial and non-industrial shore activities and fleet operational/support units ashore are eligible if they have received a rating of satisfactory or better as a result of the most recent inspection(s) by the major command Safety Office or designated SOH authority. The inspection must have occurred within the past three fiscal years.

(2) Activities and units that have experienced an on-duty Class A mishap, are not eligible to compete for the award.

b. Individual Awards.

(1) CNO Safety Award - Nominees must have made significant contributions to either the individual command program or to the overall Navy safety program. The award will be based on contributions made during the previous three years, including the past fiscal year.

Nomination and Evaluation Criteria

a. Activities meeting the eligibility criteria may submit a nomination package through their chain of command with sufficient supporting documentation to allow evaluation by the

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higher command. Echelon 3 commands, as applicable, will evaluate documentation and nominate one activity for each category, as applicable, and submit the nomination to their Echelon 2 command not later than 30 November of the year following the fiscal year under award consideration.

b. Echelon 2 commands shall evaluate documentation and nominate one activity for each category, as applicable, for the annual awards and submit their nominations to the Commander, Naval Safety Center (COMNAVSAFECEN), Code 20, 375 A Street, Norfolk, VA 23511-4399 with a letter of recommendation stating the award category for consideration. COMNAVSAFECEN will accept nominations only from Echelon 2 commands.

c. Echelon 2 nominations shall be submitted in writing to be received at COMNAVSAFECEN not later than 31 December of the year following the fiscal year under award consideration. Nominations received after 31 December will not be considered. The nominations must be supported with sufficient documentation to substantiate program implementation. All programs applicable to the activity shall be addressed. The nomination package shall be limited to 5 pages (11" X 11 1/2" maximum size).

d. A preliminary evaluation will be conducted by COMNAVSAFECEN to ensure eligibility. The programs determined to be best qualified will be evaluated by a selection committee of at least four subject matter experts and chaired by the Director, Occupational Health and Industrial Safety Programs.

e. Winners of the CNO Shore Safety Award shall be forwarded as the Navy's nominees to compete with the Marine Corps nominees for the SECNAV Shore Safety Award of reference 31-1.

f. Activity Award. The nomination package shall be completed using guidance provided below. Include in the package:

(1) Introduction (Mission of the command/ what does the command do).

(2) Examples of Leadership and Employee Participation (i.e. Safety Committees, Employee safety recognition programs etc.)

(3) Safety Risk Management:

(a) Summary/Explanation of Hazard Abatement/Mishap

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Reduction Efforts

(b) Three-year Hazard Abatement Trend [what are you numbers and what do they mean]

(c) Three-year Mishap Trend Analysis [what are you numbers and what do they mean]

1 Fiscal year 3-year civilian data to include:

a Total number of civilian mishaps

b Civilian Total Case Incident Rate (TCIR)

c Civilian Days Away, Restricted,
Transferred Rate (DART)

d Civilian Lost Time Case Rate

e Three year civilian compensation cost
trend

2 Fiscal year 3-year military data to include:

a Total number of on-duty military mishaps

b On-duty military TCIR

c Total number of off-duty military mishaps

d Off-duty military TCIR

3 Fiscal year 3-year Government Motor Vehicle (GMV) Mishap Trends - number and cost.

(d) Top 3 Actual Lessons Learned/Best Practice Adaptation/Implementation to Enhance the OSH Program.

(4) Oversight. Examples of how oversight is implemented to include periodicity and documentation and follow up on required corrective actions.

(5) CNO Individual Award for SOH - Nominations for the CNO Individual Award for safety may be by individual nomination, either by the individual themselves, by others, or from the activity. Submittals must be from the activity to which the individual is assigned and be routed via the appropriate chain

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of command for endorsement. No more than a three-page nomination letter stating the contributions the individual has made to the command/activity program or the overall Navy program shall be submitted directly to COMNAVSAFECEN by 31 December annually. Only those written nominations received by 31 December will be considered. A selection committee will evaluate all nominations. The selection committee will be composed of the Director, Occupational Health and Industrial Safety Programs and at least four other representatives from the Navy safety community. None of the committee members may be under consideration for the award. The selection committee shall meet no later than 15 January annually to evaluate and select the winners.

Presentation of Awards and Recognition of Nominees

a. COMNAVSAFECEN may present the CNO Individual Award for Safety to winners at a special ceremony during the annual Safety Professional Development Conference (Safety PDC). All winners will be announced by CNO via Naval message and recognized in other Navy publications, as appropriate. Winners in the activity category will be forwarded to Secretary of the Navy for consideration for the Secretary of the Navy Award for Achievement in Safety Ashore.

b. Winners will be awarded with an engraved plaque. COMNAVSAFECEN will maintain awards records and post award information on their web site.

SECNAV Awards

The Secretary of the Navy (SECNAV) Activity Award is governed by SECNAVINST 5305.4B. Nominating packages for the winners in each category of the CNO Award for Safety Ashore will be forwarded to compete in their respective category for the SECNAV award.

Chapter 32
MATERIAL HANDLING WITH POWERED INDUSTRIAL TRUCKS

3201. Discussion

Safe and reliable material handling equipment (MHE) is critical to the operation of the Navy and Naval Postgraduate School (NPS). Efficient handling of materials provides a continuous flow of parts and assemblies through the workplace and ensures that materials are available when needed. Each year, injuries related to MHE (e.g., powered industrial trucks to include forklifts) occur in Navy workplaces. NPS workers may be injured when MHE are inadvertently driven off loading docks, fall between docks and unsecured trailers, or when workers are struck by lift trucks or fall from elevated pallets. Most mishaps involve significant property damage. Unfortunately, most worker injuries and property damage can be attributed to lack of adequate safe operating procedures, lack of enforcement, and insufficient or inadequate training. The minimum requirements and applicable standards for the safe use of all types of MHE at NPS are summarized in this chapter.

3202. Program Requirements

- a. References 32-1 and 32-2 direct compliance with reference 32-3 for NPS.
- b. NAVPGSCOLINST 5100.9A details NPS specific MHE policies and standard operating procedures.

3203. Responsibilities

- a. The Naval Support Activity Monterey (NSAM) Occupational Safety and Health (OSH) Office provides oversight of the NPS MHE safety program, including safety inspections, evaluations, assessments and audits, risk assessments, and mishap investigations.

Chapter 32
References

32-1. NAVFAC P-300, Management of Civil Engineering Support Equipment, of Sep 03,
https://portal.navfac.navy.mil/portal/page/portal/docs/doc_store/pub/p-300.pdf.

32-2. OPNAVINST 4460.1A, Management of Material Handling Equipment (MHE) and Shipboard Mobile Support Equipment (SMSE) in Navy, of 22 Apr 04,
<http://doni.daps.dla.mil/Directives/04000%20Logistical%20Support%20and%20Services/04-400%20Supply%20and%20Material%20Services/4460.1A.pdf>.

32-3. NAVSUP Publication 538 Fifth Revision of 1 Jul 10, Management of Material Handling Equipment (MHE) and Shipboard Mobile Support Equipment (SMSE),
<https://nll.ahf.nmci.navy.mil>.

32-4. DOD Regulation 4145.19R-1, Storage and Materials Handling,
http://biotech.law.lsu.edu/blaw/dodd/corres/pdf/414519r_0678/p414519r.pdf.

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CHAPTER 33
AERIAL WORK PLATFORM (AWP) SAFETY

3301. Discussion

Various aerial lifts are used throughout the Navy by civilians, military personnel and contractors. Aerial lifts encompass self-propelled elevating work platforms (e.g., scissor lifts), manually-propelled elevating aerial lifts (e.g., uprights), extensible and articulating boom-supported elevating work platforms (e.g., aerial man-lifts), and vehicle-mounted elevating and rotating aerial devices and work platforms (e.g., bucket trucks). The following conditions occurring during aerial lift operations can result in property damage, personal injury, or death:

- a. A fall from an elevated level
- b. Falling objects or items falling out of lifts
- c. Exceeding the load capacity of the lift, which may result in tip-over or structural failure
- d. Electrical hazards (e.g., overhead power lines, extension cords, bridge crane bus bars)
- e. Contact with stationary objects (e.g., walls, buildings, other vehicles, ceilings, floors, piping) that may result in an entrapment or crushing hazard
- f. Uneven terrain that may cause the vehicle to tip, topple over or eject the operator. Some examples may include slopes, holes, drop-offs, bumps, debris, and utility vault covers
- g. High winds or inclement weather such as rain, hail, snow, or lightning
- h. Operation of an internal combustion engine vehicle indoors, which can cause asphyxiation or toxic exhaust-gas exposure

3302. Program Requirements

- a. Reference 33-1 is a single source document and complies with references 33-2 and 33-3 which are the Occupational Safety and Health Administration (OSHA) standards applicable to aerial work platforms and references 33-4 through 33-7, which are

national consensus standards applicable to aerial work platforms.

3303. Responsibilities

a. The Naval Postgraduate School (NPS) Occupational Safety, Health and Environmental (OSHE) Directorate shall provide oversight of the NPS AWP safety program, including safety inspections, evaluations, assessments and audits, and risk assessments

b. The host command Occupational Safety and Health (OSH) department is responsible for all mishap investigations. For any mishaps aboard Naval Support Activity Monterey's (NSAM) facilities (aka NPS main campus), the NSAM OSH Department is responsible for conducting the mishap investigation.

c. Supervisors shall:

(1) Ensure operators are trained per references 33-1 through 33-12.

(2) Ensure all occupants are provided with a personal fall arrest system (PFAS) and training per chapter 12 of this manual. The energy absorbing lanyard is utilized primarily for fall restraint, but potentially for fall arrest so should be short as practicable considering anchor points and occupants.

(3) Appoint a safety observer for AWP operations.

d. Operators shall:

(1) Be trained and licensed per reference 33-1, 33-8, 33-9, or local instructions (for plant or facility equipment) as appropriate.

(2) Be trained as an End User of Fall protection, per chapter 12 of this manual.

(3) Ensure all occupants of basket shall utilize PFAS, per chapter 12 of this manual, unless per reference 33-11 dictates otherwise.

(4) Ensure platforms are appropriately loaded, in accordance with reference 33-11, taking into account worker weights, as well as, consumables (paint, grease, etc.). In

general, baskets and platforms are rated at a maximum load of 500 pounds.

(5) Ensure the weight or force imposed by hoses or welding leads which are led from the basket, does not compromise stability of AWP.

e. Safety Observers shall:

(1) Be assigned for all AWP operations.

(2) Warn AWP operators of hazardous conditions.

(3) Ensure that personnel on the ground do not enter danger areas around or below the AWP.

(4) Raise an alarm or initiate the rescue plan as required.

NOTE:

The rescue plan may be the safety observer utilizing emergency descent controls from the lower operating station to return the platform to ground in event of an incapacitated operator.

(5) Meet all requirements as an operator of AWP.

f. Passengers shall:

(1) Follow the instructions of the operator.

(2) Be trained as an End User of fall protection, per chapter 12 of this manual.

3304. Prior to Operations

Per references 33-4 through 33-7, before an AWP is used and during its use, the operator shall check the work area and shall inspect the AWP per reference 33-11.

3305. Operations on Floating Platforms and near Water

a. Per references 33-4 through 33-7, AWP's must be authorized in writing by the manufacturer or qualified person for use on floating platforms. A qualified person is someone

who has significant experience and knowledge of AWP and the platforms upon which they will be utilized.

b. When work will take a platform over water, personnel floatation devices shall be worn by platform personnel in addition to the PFAS per the requirements of chapter 12 of this manual.

c. Occupants may disconnect the PFAS from the anchor point when the platform is over water. As the operator is trained in both the capabilities of the AWP and as an Authorized End User of Fall Protection, they, with their supervisor, are in the best position to make this risk decision. This decision will depend on the unit in use, operator experience, height above water, depth of water, wind conditions, and structures that potentially create tunneling effect of wind.

3306. Contract Operations

a. Contractors involved in construction or maintenance shall adhere to requirements identified in reference 33-10 or reference 33-2 and reference 33-3, as appropriate.

b. Contractors are not required to be licensed per references 33-2 thru 33-7, but shall have available documentation of training for operators.

3307. Rented or Leased Equipment

a. Any rented or leased equipment shall be accompanied by the last inspection report completed by the rental agency.

Chapter 33 References

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http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_id=9732&p_table=STANDARDS.

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33-5. ANSI/SIA A92.3-2006, American National Standard for Manually Propelled Elevating Aerial Platforms
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33-6. ANSI/SIA A92.5-2006, American National Standard Boom-Supported Elevating Work Platforms
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<http://www.trngcmd.usmc.mil/G4/Ammunition%20Documents/Library/Pubs/MISC%20PUBS/NAVSUP%20P-538%20MANAGMENT%20OF%20MHE%20AND%20SHIPBOARD%20MOBILE%20SUPPORT%20EQUIPMENT.pdf>

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<http://www.navair.navy.mil/logistics/4790/library/contents.pdf>

33-10. EM 385-1-1, United States Army Corps of Engineers Safety and Health Requirements Manual of 3 Nov 2003

<http://www.usace.army.mil/CESO/Pages/EM385-1-1.aspx>.

33-11. Individual AWP Operating Manual as provided by the Manufacturer and required by Refs 33-4 through 33-7.

33-12. OPNAVINST 5100.23G, NAVY SAFETY AND OCCUPATIONAL HEALTH PROGRAM, Chapter 31.

<http://doni.daps.dla.mil/OPNAV.aspx?RootFolder=%2fDirectives%2f05000%20General%20Management%20Security%20and%20Safety%20Services%2f05%2d100%20Safety%20and%20Occupational%20Health%20Services&View=%7bDEF0EB11%2d3785%2d4F67%2dB5A1%2dAE9F8EB752BC%7d>

CHAPTER 34
ELECTRICAL SAFETY

3401. Purpose

This chapter provides requirements and guidance for the electrical safety program at Naval Postgraduate School (NPS) in order to protect civilian and military personnel from electrical hazards, and to prevent mishaps that could cause injuries and extensive damage to equipment. Naval Facilities Engineering Command (NAVFAC) is the subject matter expert for detailed technical guidance on electrical hazards and the potential for electric shock and arc flash. No NPS employee is authorized to make any hard wiring modifications to host command or NAVFAC facilities or structures.

3402. Discussion

Electrical hazards are particularly dangerous because the human body usually does not sense electrical energy until contact is made and significant injury has already occurred. Workers must always be aware of the location of energized equipment and its voltage level at each job site. Additionally, workers must be aware of the possible sources of electrical feedback from other energized power sources into the work site. These hazards must be determined prior to starting work. Pre-job planning or activity hazard analysis (AHA) must include engineering guidance in understanding the system's operation as well as review of up-to-date single line and schematic as-built drawings. All apparel, tools, and other equipment required for worker safety must be identified and available before beginning the job.

a. Energized electrical conductors and circuit parts to which an employee might be exposed shall be put in an electrically safe work condition before someone works within the Limited Approach Boundary of those conductors or parts unless it can be demonstrated that de-energizing introduces additional or increased hazards.

The only exceptions:

- (1) Measuring/ testing electrical parameters.
- (2) Performing a task energized is necessary to support a critical mission, prevent human injury, or protect property.

Note:

All energized work requires written task specific procedures approved by the NPS President containing all appropriate safe work practices and PPE before work can commence. Energized work shall be permitted where it can be demonstrated that de-energizing introduces additional or increased hazards.

b. Energized work shall be permitted where it can be demonstrated that the task to be performed is infeasible in a de-energized state due to equipment design or operational limitations.

c. Energized electrical conductors and circuit parts that operate at less than 50 volts to ground shall not be required to be de-energized where the capacity of the source and any overcurrent protection between the energy source and the worker are considered and it is determined that there will be no increased exposure to electrical burns or explosion due to electric arcs.

3403. Responsibilities

a. The NPS OSHE Directorate is responsible for:

(1) Provide guidance for, and ensuring work is appropriate for the voltage, energy level and circuit conditions. The electrical safety program must be written and available to all affected persons.

(2) Developing electrical safety training and establishing training guidelines for electrical safety.

(3) Evaluating training to ensure courses meet the training guidelines.

3404. General Electrical Work Requirements

a. Vehicular and Mechanical Equipment. When work must be performed near overhead lines, the lines shall be de-energized and grounded, or other protective measures shall be provided before work is started. If the lines are to be de-energized, arrangements shall be made with NAVFAC to de-energize and ground them. If protective measures, such as guarding, isolating or insulating are provided, these precautions shall prevent employees from contacting such lines directly with any part of

their body or indirectly through conductive materials, tools or equipment.

b. Elevated Equipment. Where any vehicle or mechanical equipment structure will be elevated near energized overhead lines, they shall be operated so that the Limited Approach Boundary distance of NFPA table 130.2(C), column 2, is maintained. However, under any of the following conditions, the clearances shall be permitted to be reduced:

(1) If the vehicle is in transit with its structure lowered, the Limited Approach Boundary distance to the overhead lines in NFPA Table 130.2 (C), column 2, shall be permitted to be reduced by 6 ft. If insulated barriers, rated for the voltages involved, are installed and they are not part of an attachment to the vehicle, the clearance shall be permitted to be reduced to the design working dimensions of the insulating barrier.

(2) If the equipment is an aerial lift insulated for the voltage involved, and if the work is performed by a qualified person, the clearance (between the un-insulated portion of the aerial lift and the power line) shall be permitted to be reduced to the Restricted Approach Boundary given in NFPA Table 130.2 (C), column 4.

c. Equipment Contact. Employees standing on the ground shall not contact the vehicle or mechanical equipment or any of its attachments, unless either of the following conditions applies:

(1) The employee is using protective equipment rated for the voltage.

(2) The equipment is located so that no un-insulated part of the structure (that portion of the structure that provide a conductive path to employees on the ground) can come closer to the line than permitted in NFPA 130.5 (E)(1).

d. Equipment Grounding. If any vehicle or mechanical equipment capable of having parts of its structure elevated near energized overhead lines is intentionally grounded, employees working on the ground near the point of grounding shall not stand at the grounding location whenever there is a possibility of overhead line contact. Additional precautions, such as the use of barricades or insulation, shall be taken to protect employees from hazardous ground potentials (step and touch

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potential), which can develop within a few feet or more outward from the ground point.

e. Portable Electrical Equipment and Extension Cords. The following requirements apply to the use of cord-and-plug-connected equipment and flexible cord sets (extension cords):

(1) Extension cords may only be used to provide temporary power for a period not to exceed 90 days.

(2) Portable cord and plug connected equipment and extension cords must be visually inspected before use on any shift for external defects such as loose parts, deformed and missing pins, or damage to outer jacket or insulation, and for possible internal damage such as pinched or crushed outer jacket. Any defective cord or cord-and-plug-connected equipment must be removed from service and no person may use it until it is repaired and tested to ensure it is safe for use.

(3) Extension cords must be of the three-wire type. Extension cords and flexible cords must be designed for hard or extra hard usage (for example, types S, ST, and SO). The rating or approval must be visible.

(4) Job-made extension cords are forbidden per the electrical code.

(5) Personnel performing work on renovation or construction sites using extension cords or where work is performed in damp or wet locations must be provided, and must use, a ground-fault circuit interrupter (GFCI).

(6) Portable equipment must be handled in a manner that will not cause damage. Flexible electric cords connected to equipment may not be used for raising or lowering the equipment.

(7) Extension cords must be protected from damage. Sharp corners and projects must be avoided. Flexible cords may not be run through windows or doors unless protected from damage, and then only on a temporary basis. Flexible cords may not be run above ceilings or inside or through walls, ceilings or floors, and may not be fastened with staples or otherwise hung in such a fashion as to damage the outer jacket or insulation.

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(8) Cords must be covered by a cord protector or tape when they extend into a walkway or other path of travel to avoid creating a trip hazard.

(9) Extension cords used with grounding type equipment must contain an equipment-grounding conductor (i.e., the cord must accept a three-prong, or grounded, plug).

(10) Attachment plugs and receptacles may not be connected or altered in any way that would interrupt the continuity of the equipment grounding conductor. Additionally, these devices may not be altered to allow the grounding pole to be inserted into current connector slots. Clipping the grounding prong from an electrical plug is prohibited.

(11) Flexible cords may only be plugged into grounded receptacles. The continuity of the ground in a two-prong outlet must be verified before use. It is recommended that the receptacle be replaced with a three-prong outlet. Adapters that interrupt the continuity of the equipment grounding connection may not be used.

(12) All portable electric equipment and flexible cords used in highly conductive work locations, such as those with water or other conductive liquids, or in places where employees are likely to contact water or conductive liquids, must be approved for those locations.

(13) Employee's hands must be dry when plugging and unplugging flexible cords and cord and plug connected equipment if energized equipment is involved.

(14) If the connection could provide a conducting path to employees hands (for example, if a cord connector is wet from being immersed in water), the energized plug and receptacle connections must be handled only with insulating protective equipment.

(15) Locking type connectors must be properly locked into the connector.

(16) Lamps for general illumination must be protected from breakage, and metal shell sockets must be grounded.

(17) Temporary lights must not be suspended by their cords unless they have been designed for this purpose.

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(18) Portable lighting used in wet or conductive locations, such as tanks or boilers, must be operated at no more than 12 volts or must be protected by GFCI's.

(19) Extension cords are considered to be temporary wiring, and must also comply with the section on "Requirements for Temporary Wiring" in this program.

f. Power strips. Connect power strips directly to a permanently installed receptacle. They are not intended to be series connected (daisy chained) to other power strips or extension cords.

(1) Power strips are not to be used outdoors.

(2) Power strips are not to be permanently secured to building structures, tables, benches or similar structures. They are not a substitute for fixed wiring.

(3) The cords of power strips are not to be routed through walls, windows, ceilings, floors or similar openings.

(4) In addition, do not exceed maximum cord and plug load limits. According to the NEC and NFPA, the maximum load should not exceed 80% of the manufacturer's rating. This means the maximum load on a 15 amp power strip is 12 amps.

NOTE:

Power strips will NOT be used to extend the original cord of refrigerators, freezers, coffee pots, space heaters, air conditioners, microwave ovens or any other high amperage device.

g. Requirements for Temporary Wiring. Temporary electrical power and lighting installations 600 volts or less, including flexible cords, cables and extension cords, may only be used during and for renovation, maintenance, repair, or experimental work. The duration for temporary wiring used for decorative lighting for special events and similar purposes may not exceed 90 days. The following additional requirements apply:

(1) Ground-fault protection (e.g., ground-fault circuit interrupters or GFCI) must be provided on all temporary-wiring circuits, including extension cords, used on construction sites.

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(2) In general, all equipment and tools connected by cord and plug must be grounded. Listed or labeled double insulated tools and appliances need not be grounded.

(3) Feeders must originate in an approved distribution center, such as a panel board, that is rated for the voltages and currents the system is expected to carry.

(4) Branch circuits must originate in an approved power outlet or panel board.

(5) Neither bare conductors nor earth returns may be used for the wiring of any temporary circuit.

(6) Receptacles must be of the grounding type. Unless installed in a complete metallic raceway, each branch circuit must contain a separate equipment-grounding conductor, and all receptacles must be electrically connected to the grounding conductor.

(7) Flexible cords and cables must be of an approved type and suitable for the location and intended use. They may only be used for pendants, wiring of fixtures, connection of portable lamps or appliances, elevators, hoists, connection of stationary equipment where frequently interchanged, prevention of transmission of noise or vibration, data processing cables, or where needed to permit maintenance or repair. They may not be used as a substitute for the fixed wiring, where run through holes in walls, ceilings or floors, where run through doorways, windows or similar openings, where attached to building surfaces, or where concealed behind building walls, ceilings or floors.

(8) Suitable disconnecting switches or plug connects must be installed to permit the disconnection of all ungrounded conductors of each temporary circuit.

(9) Lamps for general illumination must be protected from accidental contact or damage, either by elevating the fixture or by providing a suitable guard. Hand lamps supplied by flexible cord must be equipped with a handle of molded composition or other approved material and must be equipped with a substantial bulb guard.

(10) Flexible cords and cables must be protected from accidental damage. Sharp corners and projections are to be

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avoided. Flexible cords and cables must be protected from damage when they pass through doorways or other pinch points.

h. Wet or Damp Locations. Work in wet or damp work locations (i.e., areas surrounded or near water or other liquids) should not be performed unless it is absolutely critical. Electrical work should be postponed until the liquid can be cleaned up. The following special precautions must be incorporated while performing work in damp locations:

(1) Only use electrical cords that have Ground Fault Circuit Interrupters (GFCIs);

(2) Place a dry barrier over any wet or damp work surface;

(3) Remove standing water before beginning work. Work is prohibited in areas where there is standing water;

(4) Do not use electrical extension cords in wet or damp locations; and

(5) Keep electrical cords away from standing water.

i. Disconnecting Means (Circuit Breakers and Disconnect Switches). Unless their purpose is evident, circuit breakers and fuse boxes shall be specifically and legibly marked to indicate their purpose. For example, markings should not merely indicate motor or lights, but motor, water pump #2 or lights, front lobby. Spare circuit breakers will be identified as spare. Supervisors, in conjunction with the installation electricians, Construction Electricians (CE) or contract electricians, shall ensure all electrical fuse, switch and circuit-breaker boxes are marked with correct voltage, current, wattage, foreign source of power or other ratings, as appropriate. Personnel shall not stand directly in front of circuit breakers or switches when activating or deactivating them. Refer to UFC 3-560-01, Electrical Safety, O & M, for additional guidance.

Circuit breakers and disconnect switches shall clearly indicate status - open (off) or closed (on). Refer to NFPA 70, National Electrical Code, and 29 CFR 1910.304, Wiring Design and Protection, for additional guidance. Circuit breakers disconnect switches and fuses shall be readily accessible to workers and building management personnel. Work space in front shall be clear and unimpeded (minimum of 36 inches (762 mm) and

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shall not be located where exposed to physical damage or in the vicinity of easily ignitable material. Circuit breakers shall not be taped in the on position. Breakers that trip frequently indicate electrical problems and shall be promptly reported and corrected. Workers shall not substitute larger fuses or breakers or use bypass wires, pennies, etc. If circuit breaker fails to close or immediately trips after resetting, a qualified electrical worker (electrician) shall be called to troubleshoot the circuit breaker, i.e., NAVFAC shall be called immediately.

j. Unless work on energized components can be justified, energized electrical conductors and circuit parts to which a worker may be exposed shall be put in an electrically safe work condition before the qualified worker works within the Limited Approach Boundary.

k. Both a shock analysis and an arc flash analysis are required before any person is permitted to approach the exposed energized electrical conductors.

l. A shock hazard analysis shall determine the voltage to which personnel will be exposed, boundary requirements, and the PPE necessary in order to minimize the possibility of electric shock to personnel.

m. Safety related work practices shall be used while persons are exposed to electrical hazards from electrical conductors or circuit parts that are or can become energized. Specific safety-related work practices shall be consistent with the nature and extent of the associated electrical hazards.

n. All electrical wiring and equipment shall be a type listed by a nationally recognized testing laboratory for the specific application for which it is to be used.

o. All electrical work shall comply with applicable National Electrical Safety Code and USCG regulations.

p. Electrical work within the Limited Approach Boundary shall be performed by qualified personnel with verifiable credentials who are familiar with applicable code requirements.

q. An arc flash hazard analysis and incident energy analysis shall determine the Arc Flash Protection Boundary and the PPE that persons within the Arc Flash Protection Boundary must wear

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r. Equipment shall be field marked with a label containing the available incident energy or required level of PPE.

3405. Working on de-energized equipment

a. Completely de-energizing equipment will ensure safety from electrical hazards. An electrically safe condition shall be achieved and verified by the following process:

(1) Determine all possible sources of electrical supply to the specific equipment. Check applicable drawings, diagrams and identification codes if possible

(2) After properly interrupting the load current, open the disconnecting devices for each source;

(3) Wherever possible verify all disconnecting devices are fully open or that circuit breakers are withdrawn to the fully disconnected position

(4) Apply lockout/tagout device in accordance with established policy; (See chapter 23 for lockout/tagout requirements.)

(5) Determine that an adequately rated voltage detector is operating satisfactorily and test each phase conductor or circuit part to verify they are de-energized;

(6) Where the possibility of induced voltage or stored electrical energy exists, ground the phase conductors or circuit parts before touching them, and apply ground connecting devices rated for the available fault duty when it could be reasonably anticipated that the conductors or circuit parts being de-energized could contact other exposed energized conductors or circuit parts.

b. Before work is begun, the qualified person shall ascertain whether any part of an electric power circuit (exposed or concealed) is located such that the performance of work could bring any person, tool, or machine into physical or electrical contact with it. Some equipment has more than one source of power that requires opening multiple breakers or switches and/or removing multiple fuses.

3406. Working on energized electrical equipment

a. A qualified worker can perform work on or near exposed energized conductors or circuit parts under the following conditions:

(1) De-energizing the conductors or equipment could result in an increased hazard.

(2) De-energizing the conductors or equipment could require a complete shut-down of an essential process.

(3) The work to be done is infeasible in a de-energized state due to equipment design or operational limitations.

b. Work on energized electrical equipment when not placed into an electrically safe work condition requires an energized electrical work permit approval by the NPS President or his/her designated representative. Permits that cover routine work tasks to be performed by trained and qualified persons can be written to cover a long period of time, for example if the worker is trained and wearing the necessary PPE, a permit might be issued for three months to replace a fuse that involves an exposed energized electrical conductor.

c. Work permits shall include but are not limited to: A description of the circuit and equipment to be worked on and its location. Justification why the work must be performed in an energized state; A description of safe work practices to be employed; results of the shock analysis; Determination of shock protection boundaries; results of the arc flash hazard analysis; The necessary personal protective equipment; Means employed to restrict the access of unqualified persons from the work area; and Evidence of completion of a job briefing including a discussion of job specific hazards

d. For technical procedures when conducting work on Energized Circuits, contact NAVFAC.

e. An arc flash hazard analysis and incident energy analysis shall determine the Arc Flash Protection Boundary and the PPE that persons within the Arc Flash Boundary shall use.

3407. Training

a. Training requirements shall apply to all persons who face an electrical hazard. The training shall include: what

electrical hazards are present in the workplace; understand how each electrical hazard affects the human body; how to determine the degree of each hazard; understand how exposure to each electrical hazard might exist in each step in the work task; safety related work practices; how to minimize risk by body position; understand the characteristics of what PPE is needed; how to select and inspect PPE; what electrical safety program SOPs must be implemented; how to determine limited, restricted and prohibited approach boundaries; recognizing symptoms of electrical shock, electrical shock trauma, how to request emergency assistance and emergency first aid responder techniques if their duties warrant such training.

b. Training shall include classroom or lab presentations of actual performance of the work if needed under the supervision of knowledgeable persons. The degree of training needed shall be determined by the associated work tasks.

c. A qualified person shall be trained and knowledgeable of the construction and operation of equipment or a specific work method and be trained to recognize and avoid the electrical hazards that might be present with respect to that equipment or work method.

d. For a person to be considered qualified, they must have the craft training necessary to be knowledgeable in the operation of the equipment associated with the work task or the specific work method.

3408. Personal Protective Equipment

a. All departments are required to provide ASTM or ANSI approved PPE for their individual labs spaces based upon the type of electrical work being performed in the space. Reference 34-5 shall be referred to and reviewed prior to purchasing appropriate electrical safety PPE.

Note:

No electrical equipment will be hardwired into the wall unless work is approved and completed by NAVFAC.

b. When a worker is working within the Arc Flash Protection Boundary he or she shall wear protective clothing and other PPE as required by the job task. All parts of the body inside the Arc Flash Protection Boundary shall be protected.

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c. The protective clothing used for protection from thermal injury from an arcing fault must be arc rated flame resistant.

d. Workers shall wear nonconductive head protection wherever there is a danger of head injury from electric shock or burns due to contact with energized electrical conductors or circuit parts or from flying objects resulting from an electrical explosion.

e. Workers shall wear protective eyewear, footwear, hand and arm protection which conform to applicable ASTM or ANSI standards. Properly tested rubber insulating gloves shall be rated for the voltage for which the gloves will be exposed.

f. The garment manufacturer's instructions for FR clothing washing, laundering and maintenance shall be followed.

g. Workers shall use insulated tools and/or handling equipment when working inside the Limited Approach Boundary of exposed energized electrical conductors or circuit parts where tools or handling equipment might make accidental contact. References 34-8 and 34-10 provide further information for tasks that require insulated tools.

Enclosure (1)

Chapter 34
References

- 34-1. Title 29 Code of Federal Regulations (CFR) 1910 Subpart S, 1910.301 - 1910.334
- 34-2. Title 29 Code of Federal Regulations (CFR) 1910.399, Subpart S, Definitions
- 34-3. Title 29 Code of Federal Regulations (CFR) 1910.269, Electric Power Generation, Transmission and Distribution
- 34-4. Title 29 Code of Federal Regulations (CFR) 1915.181, Electrical Machinery in Shipyards, Electric Circuits and Distribution Boards (applies to the vessel's permanently installed electrical circuits and distribution systems.)
- 34-5. Title 29 Code of Federal Regulations (CFR) 1915.157, PPE in shipyards 29 CFR 1910.132 - 1910.137 PPE
- 34-6. Title 29 Code of Federal Regulations (CFR) 1915.132, Portable Electric Tools, 1915.92(b) General Working Conditions, Illumination and 1915.93(b), Utilities, (temporarily installed electrical systems (such as extension cords, portable service panel, "spider box") used for repairing vessels)
- 34-7. National Fire Protection Agency (NFPA) 70E, National Electrical Code
- 34-8. National Fire Prevention Association (NFPA 70E, Electrical Safety in the Workplace
- 34-9. NFPA 70B, Recommended Practice for Electrical Equipment Maintenance
- 34-10. Unified Facilities Criteria (UFC) 5-360-01
- 34-11. USACE Safety and Health Requirements Manual (EM-385)

CHAPTER 35
IONIZING RADIATION

3501. Discussion

The NPS Radiological Affairs Support Program (RASP) applies to the receipt, ownership, possession, use, repair, maintenance, storage, distribution, transportation and disposal of all sources of ionizing radiation. The NPS RASP is promulgated by references 35-1 and 35-2.

Chapter 35
References

35-1. NAVSEA S0420-AA-RAD-010 (current version), Radiological Affairs Support Program Manual

35-2. NPSINST 6470.1 (current version), Radiation Safety Instruction for Naval Postgraduate School.