



DEPARTMENT OF THE NAVY

UNITED STATES NAVAL ACADEMY

121 BLAKE ROAD

ANNAPOLIS, MARYLAND 21402-5000

USNAINST 5100.11C
4/Safety

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USNA INSTRUCTION 5100.11C

From: Superintendent

Subj: NAVY OCCUPATIONAL SAFETY AND HEALTH (NAVOSH) PROGRAM MANUAL

Ref: (a) OPNAVINST 5100.23E
(b) 29 CFR 1910

Encl: (1) Navy Occupational Safety and Health Manual

1. Purpose. To implement the NAVOSH Program as published in reference (a) and to issue local guidance and procedures relating to Occupational Safety and Health.

2. Cancellation. USNAINST 5100.11B and USNA/AACINST 5100.15

3. Information. No special markings appear in this instruction since changes are extensive.

4. Background. Reference (a), assigns Commanding Officers with the responsibility for ensuring compliance with Navy safety and health requirements. Reference (b), assigns the Medical Department the responsibility for recommending to the Commanding Officer measures necessary to maintain health and provide medical services.

5. Objectives

a. To enhance mission accomplishment by establishing an effective and proactive safety and health program that will, to the maximum extent feasible, reduce occupational illnesses, injuries, or death.

b. To create and maintain a safe and healthful working environment for military and civilian personnel by providing safe facilities and equipment and integrating safety into all organizational processes.

6. Scope. This program applies to all military, civilian, and nonappropriated fund personnel assigned to the Naval Academy. The intent of this instruction also applies to Navy dependents and all other civilian personnel while on Navy installations. These instructions are not considered complete but are to be augmented by pertinent instructions contained in referenced documents throughout the manual and in the bibliography. Nothing herein shall be construed as modifying or superseding directives issued by higher authority. Any conflicts with such directives shall be referred to the Deputy for Operations for resolution.

7. Action. All military and civilian personnel of the Naval Academy and tenants shall:

a. Comply with this instruction, enclosure (1), and other directives issued by higher authority.

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b. Report in writing to the Safety Manager omissions or errors that are discovered as well as suggestions for additions, deletions, or modifications.

c. Supervisors are directed to give wide dissemination of the contents of this manual to all personnel and encourage inputs of a constructive manner.



M. E. MCWATTERS
Deputy for Operations

Distribution:

AA (Less: Football Office; Branch Dental Clinic; Visitor Information Center;
Naval Legal Service Dept., Annapolis; Radio Transmitting Facility; Navy
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CHAPTER 1

INTRODUCTION101. BACKGROUND

1. The Navy has conducted occupational safety and health programs for many years. Historically, occupational safety has been an element of the overall Navy safety program managed by Navy line functions. Other elements of the safety program include explosive safety, aviation safety, and off-duty safety. The occupational health program element is conducted under the cognizance of the Bureau of Medicine and Surgery.

2. The program gained special prominence after passage of the Occupational Safety and Health Act (OSHAct) on 31 December 1970. Although the primary thrust of the OSHAct was directed at the private sector employer, Section 19 of the OSHAct directed federal agencies to establish and maintain comprehensive and effective occupational safety and health programs consistent with the standards promulgated under Section 6 of OSHAct.

3. On 26 July 1971, a Presidential Executive Order (E.O. 11612) entitled "Occupational Safety and Health Programs for Federal Employees" was signed. The Executive Order stated that the Federal Government, as the Nation's largest employer, has a special obligation to set an example for safe and healthful employment. In this regard, the head of each Federal department was directed to establish an Occupational Safety and Health Program in compliance with Section 19 of the OSHAct. E.O. 11807 tasked the Secretary of Labor to issue guidelines designed to assist Federal agencies in establishing their programs. These "guidelines" were issued on 9 October 1974 as Title 29, Code of Federal Regulations, Part 1960, "Safety and Health Provisions for Federal Employees."

4. E.O. 11807 was superseded on 26 February 1980 by E.O. 12196, "Occupational Safety and Health Programs for Federal Employees," and the Department of Labor guidelines (29 CFR 1960) was revised on 21 October 1980 and reissued as "Basic Program Elements for Federal Employee Occupational Safety and Health Programs."

5. In accordance with DOD Directive 1000.3, the Assistant Secretary of the Navy (Installations and Environment (ASN(I&E))) have been appointed as the "Designated Safety and Occupational Health Official" for the Department of the Navy. OPNAVINST 5100.23 Series, "Navy Occupational Safety and Health (NAVOSH) Program Manual," outlines the NAVOSH Program and consolidates many previous OPNAV instructions into a single organized text which is the primary reference for the Naval Academy Occupational Safety and Health Manual.

102. NAVOSH POLICY. It is Navy policy to provide a safe and healthful workplace for all personnel. These conditions will be ensured through an aggressive and comprehensive occupational safety and health programs fully endorsed by the Secretary of the Navy and implemented through the Superintendent. The program includes the following features:

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1. Compliance with applicable standards.
2. As a minimum, annual inspections of all workplaces by qualified OSH inspectors with high hazard areas inspected more frequently.
3. Prompt abatement of identified hazards.
4. Procedures for all personnel to report suspected hazards to their supervisors and/or safety and health officials without fear of reprisal.
5. Appropriate OSH training for all supervisory personnel and employees.
6. Procedures to review, in advance of construction/procurement, the design of facilities to ensure that OSH hazards are eliminated or controlled.
7. Thorough mishap investigation which will provide all OSH data required by higher authority.
8. Comprehensive occupational health support programs, both medical and industrial hygiene, implemented by qualified personnel.
9. Procedures to recognize superior or deficient OSH performance. Performance evaluations will reflect personnel accountability in this respect, consistent with the duties of the positions, with appropriate recognition of superior performance and conversely, an adverse notation as appropriate for deficient performance.

103. APPLICABILITY. The provisions of this manual apply to all Navy civilians (appropriated and nonappropriated funds) and military personnel employed or assigned duty at, or functions under, the conveyance of United States Naval Academy (USNA).

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CHAPTER 2

ORGANIZATION AND ADMINISTRATION201. GENERAL

1. The OSH Program is organized and administered under the staff direction of the Safety and Occupational Health Manager and the Safety Department.

2. It will be implemented at each and every working level in all activities and involve everyone, to some degree, from the Superintendent to the newest employee or service member.

3. This chapter identifies various responsibilities and outlines actions required at each level of employment.

202. RESPONSIBILITIES. The responsibility for occupational safety and health is delegated to each employee, regardless of job level. In other terms, safety is everyone's responsibility. The acceptance of this responsibility is a condition of employment.

1. Cost Center/Sub-Cost Center Heads. All Cost Center/Sub-cost Center Heads are responsible for the maintenance of safe operations and practices and for the prevention of accidents within their area of authority. Management responsibilities include but are not limited to the following:

a. Ensuring that all employees understand and comply with prescribed safety instructions, rules, regulations, and the use of prescribed personal protective equipment.

b. Ensuring that all plans and/or specifications for new or altered facilities process equipment and procedures are reviewed and evaluated for safety considerations by local safety and health officials as required by paragraph 303.

c. Taking necessary steps to ensure prompt reporting of all mishaps, regardless of the severity, to the Safety Department in a complete and timely manner.

d. Ensure that annual performance ratings accurately reflect safety support and performance throughout the rating year.

e. Actively taking part in management OSH training.

f. Making program improvement recommendations to the OSH Council, which may further the NAVOSH Program.

g. Establishing adequate internal procedures and records for the administration, supervision, and evaluation of the OSH Program within the USNA Departments.

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2. Supervisors. Each supervisor is directly responsible for the safety of personnel within their unit. Supervisor duties include:

a. Understanding the hazards associated with the jobs being performed by their employees. Supervisors will utilize Job Safety Analysis principles in planning work assignments.

b. Being thoroughly familiar with and enforcing the safety regulations and procedures for the operation of equipment and use of material under their control.

c. Cooperating with the Safety Department in the carrying out of safety duties.

d. Instructing and drilling employees in safe practices, standard operating procedures, and requirements for the use of personal protective equipment.

e. Conducting regular and frequent occupational safety and health self-inspections of the shop area including remote job sites.

f. Holding occupational safety and health training sessions for all employees (paragraph 505).

g. Without exception, promptly ensuring all injured employees receive medical attention and treatment.

h. Reporting all mishaps immediately to the Safety Department, promptly investigating for cause, and completing required reports.

i. Promptly taking action to correct any unsafe or unhealthful working condition reported by employees.

j. Advising employees of hazards within their work area, for which personal protective equipment is required.

k. Enforcing the use of applicable personal protective equipment.

l. Attending supervisory occupational safety and health training when announced.

m. Performing additional OSH related duties on request or as necessary.

3. Employees. Employees are responsible for accomplishing their work in a manner that will assure their own safety and the safety of others. Employee duties include:

a. Following standard operating procedures were provided and accepted trade safety practices.

b. Observing all occupational safety and health precautions applicable to their duties.

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- c. Reporting all unsafe or unhealthful conditions.
- d. Wearing or using personal protective equipment of the approved type that is prescribed for the job to be done.
- e. Reporting immediately to the supervisor all mishaps resulting in personal injury or property damage no matter how slight.
- f. Obtaining medical treatment as soon as possible after the occurrence of an injury.
- g. Attending all OSH training sessions, to which assigned.

4. Safety Manager. The Safety Manager serves as a staff member on all matters pertaining to occupational safety and health under the administrative control of the Superintendent. The Safety Manager is responsible to the Superintendent for the development and maintenance of the Naval Academy Occupational Safety and Health Manual. Incumbent is vested with authority to inspect all activities, operations, practices, or procedures on, or under the control of, or having a host/tenant agreement with USNA. The Safety Manager will:

- a. Advise and assist the Superintendent and management on all matters pertaining to occupation safety and health.
- b. Serve as the Superintendent's representative and point of contact in all matters pertaining to occupational safety and health to other commands and higher authorities.
- c. Report to the Superintendent via the chain of command all NAVOSH deficiencies which are considered significant and for which no action has been taken.

203. SAFETY DEPARTMENT DUTIES

- 1. Apply all known governing directives to facilities' safety inspections.
- 2. Consult with operating personnel, supervisors, and management regarding the prevention and correction of unsafe or unhealthful working conditions.
- 3. Develop and promote the Superintendent's overall OSH Program.
- 4. Initiate and maintain a program for stimulating and maintaining employee interest in safety.
- 5. Ensure mishaps are investigated, review mishap reports, and monitor corrective measures taken to eliminate mishap causes.
- 6. Program and conduct facilities' safety inspections.
- 7. Provide assistance to the Command OSH Council and Safety Committees on current safety issues and hazard abatement matters.

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8. Approve personal protective equipment for all operations and processes.
9. Review beneficial suggestions pertaining to occupational safety and health.
10. Maintain mishap records and promptly make all required reports.
11. Prepare periodic mishap analysis and an annual program self assessment. OSH program improvement's initiatives will be developed based on the self-assessment.
12. Sponsor a program for education and training in OSH in cooperation with all departments.
13. Provide technical OSH guidance to managers, supervisors, and workers on request or as necessary.
14. Review and implement standard operating procedures for evolutions involving high risk, e.g., Industrial Operations, Explosives Storage and Handling, etc.
15. Coordinate industrial hygiene services with the Naval Medical Clinic (NAVMEDCLINIC).
16. Maintain an OSH library composed of Standards, Code of Federal Regulations, Navy directives, and other material as is necessary to have available adequate and current reference material.

204. OSH COUNCIL AND COMMITTEES

1. USNA OSH Council. By reference (a) all shore activities will establish a permanent OSH Council composed of military and civilian staff members.

a. Objectives

(1) To enhance the operational readiness and mission accomplishment by providing sound OSH policy guidance that will, to the extent feasible, reduce occupational illness, injury, or death.

(2) To provide consistent policy guidelines to all organizational elements so that interpretation of requirements is evenly applied.

(3) To serve as the focal point in policy matters of OSH that may arise from subordinate organizations.

b. Scope. OSH policies, as recommended by the USNA OSH Council, will apply to all the military and civilian personnel assigned to the USNA.

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c. Membership

Chairperson	Deputy for Operations or Base Operations
Advisor/Coordinator	Safety and Occupational Health Manager and Staff
Members:	Management representatives from the following departments:
	Public Works - Admin and Environmental
	Supply - Hazardous Material Minimization
	Commandant of Midshipmen - Safety
	Coordinator or Bancroft 1 st Lt
	Academic Dean as designated
	Deputy for Management - HRD/ICP
	Physical Education - Dep/Div. Head
	NAVMEDCLINIC - Occupational Health
	NAVMEDCLINIC - Industrial Hygiene
	Security - Security Officer
	Fire Dept - Fire Chief
	Dir., Midn Food Services
	Laundry

(1) Members of the OSH Council may occasionally designate representatives to act in their behalf. Such representatives must be authorized to speak for the member on the matters of policy.

(2) Others will participate upon request as dictated by the area of expertise required.

(3) The Safety and Occupational Health Manager will act as technical advisor to the Council and will, in conjunction with the Chairperson, establish Council agenda, prepare minutes of meetings, and implement/enforce policies established by the Council.

(4) Individual members will make themselves aware of the requirements of the NAVOSH Program and be prepared to provide consideration to such issues. The Safety Department will assist members in this regard.

d. Meetings

(1) The OSH Council will meet at least quarterly and at such other times as determined by the Chairperson.

(2) The Chairperson will convene all meetings. The Safety Manager will notify members, by official means, of scheduled meetings and agenda items with sufficient lead time for the members to become familiar with background and requirements.

(3) Any matter tabled for future consideration will be resolved at the next regular meeting.

(4) Policy items, once approved, may be reviewed by the Council on a periodic basis to ensure they are consistent with mission assignments and are being implemented by subordinate organizations with the advice and guidance of the Safety Manger.

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(4) Monitor the effectiveness of the NAVOSH Deficiency Abatement Program and advise the Superintendent of the current hazard abatement status at a minimum interval of every 6 months. The OSH Council may be used as a channel for hazard abatement status review.

b. Inspection Report Addressees

(1) Take prompt corrective action as specified in the report.

(2) Complete appropriate portions of Section B of the NDN and forward copies to the Safety Department within 30 calendar days of the inspection report date.

(3) For those deficiencies which have not been completed within 30 days, indicate what interim measures have been taken to minimize or temporarily abate the hazard.

(4) For those deficiencies which have not been corrected within 60 days, permission must be obtained for the Safety Department to allow the procedure, equipment, or operation to continue uninterrupted. Without positive interim measures (i.e., administrative controls, machinery taken out of service, procedure or operation suspended, etc.) to adequately protect workers, permission will not be granted; and the subject of the deficiency will be secured.

206. GENERAL REQUIREMENTS FOR DEFICIENCY (HAZARD) ABATEMENT PLAN. As a result of inspections held by the Safety Office, OSH observers, employee reports of unsafe or unhealthful working conditions, and others, a positive method of abatement for discrepancies noted will be initiated. The primary responsibility for completion of corrective action is placed at the immediate supervisory level.

207. SAFETY DEPARTMENT

1. Ensure that a formal inspection of the entire activity is performed annually and that high-risk areas are inspected more frequently as provided in this chapter.

2. Assign to each deficiency a Risk Assessment Code (RAC) which will indicate the hazard severity and mishap probability of the deficiency as follows:

a. Hazard Severity. The hazard severity is an assessment of the worst potential consequence, defined by degree of injury, occupational illness or property damage which is likely to occur as a result of a deficiency. Hazard severity categories will be assigned by Roman numeral according to the following criteria:

(1) Category I - Catastrophic: The hazard may cause death or loss of a facility.

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

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

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

b. Mishap Probability. 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. Mishap probability will be assigned an arabic letter according to the following criteria:

(1) Subcategory A - Likely to occur immediately or within a short period of time.

(2) Subcategory B - Probably will occur in time.

(3) Subcategory C - May occur in time.

(4) Subcategory D - Unlikely to occur.

c. RAC. The RAC is an expression of risk which combines the elements of hazard severity and mishap probability. Using the below, the RAC is expressed as a single arabic number that can be used to help determine hazard abatement priorities:

		<u>Mishap Probability</u>				<u>RAC</u>
		A	B	C	D	
Hazard Severity	I	1	1	2	3	1 - Critical
	II	1	2	3	4	2 - Serious
	III	2	3	4	5	3 - Moderate
	IV	3	4	5	5	4 - Minor
						5 - Negligible

3. Provide a NDN (Figure 2-1), to Department Heads/Division Officers, or Supervisors as appropriate for all deficiencies.

4. Maintain a file of all NAVOSH Deficiency Notices which are assigned a RAC of 1, 2, or 3 and entered into the NAVOSH Hazard Abatement Plan.

208. COST CENTER AND SUB-COST CENTER HEADS

1. Upon receipt of a NDN, initiate prompt corrective action via Public Works Department (PWD) Service Call Work Request, or a self-help project if corrections are within the capabilities of the cognizant department. Any work request will include the following:

- a. The deficiency number assigned.
- b. A description of the deficiency as reported.
- c. The indicated reference.

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d. The RAC assigned.

e. An attached copy of the NDN.

2. For deficiencies assigned a RAC 1, 2, or 3, post a copy of the NDN in the immediate vicinity of the noted deficiency until correction is made.

3. For those items which cannot be corrected within 30 days, an Abatement Program will be established as follows:

a. Make reports as required in this chapter.

b. Follow up on requests to ensure timely completion and to be aware of possible changes in estimated completion dates.

4. Complete appropriate parts of Section B of the NDN and return it to the Safety Department within 30 days of the notice date.

209. PUBLIC WORKS DEPARTMENT

1. Prioritize NAVOSH Abatement Deficiencies in accordance with RAC previously assigned.

2. Provide an estimated completion date and estimated costs.

3. Provide justification for all deficiencies which cannot be completed within 30 days.

4. Upon correction of a safety deficiency, provide the requester with a final costs and completion date.

5. For those deficiencies which are beyond the local funding capability to correct, submit projects to centrally managed NAVOSH funding sources as described in reference (a) and Naval Facilities Engineering Command (NAVFACENGCOM) directives.

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NAVOSH DEFICIENCY NOTICE			
SECTION A - DEFICIENCY INFORMATION (To be completed by the OSH inspector.)			
ORGANIZATION: <i>U.S. Naval Academy</i>	LOCATION: <i>Specific location and/or operation</i>	TYPE INSP:	NDN #:
DESCRIPTION: <i>Safety Hazard is described here</i>			
STANDARD VIOLATED: <i>Applicable Regulation</i>			
RISK ASSESSMENT CODE: SEVERITY/PROBABILITY:		ANNUAL EXPOSURE: ABATEMENT PRIORITY:	
OSH OFFICIAL: <i>Name of Inspector(s)</i>		INSPECTION DATE: <i>Date of Inspection</i>	
SECTION B - ABATEMENT STATUS (Complete <i>ONE</i> of the following.)			
DEFICIENCY CORRECTED - (Complete this part <i>ONLY</i> if the deficiency has been <i>FULLY CORRECTED</i> . Labor cost is based on \$16.00 per hour, per person.)			
CORRECTION MADE: <i>When item is complete describe corrective action in this block.</i>		DATE: <i>Completion Date</i>	INITIALS: _____ <small>SUPV/BLDG 1STLT</small>
		LABOR \$: <i>Based on \$16.00 per hour</i>	MATERIAL \$: <i>Actual Cost</i>
		TOTAL \$:	
DEFICIENCY NOT CORRECTED - (Completed if deficiency is <i>NOT FULLY CORRECTED</i> . If the Risk Assessment Code (RAC) is 1, 2, or 3, post a copy of this notice at the hazard location.)			
PROJECT DESCRIPTION - J.O./P.O. TITLE: <i>If item cannot be completed within thirty (30) days, describe action to be taken in this block.</i>		ACTION TAKEN (Include Work Order/Purchase Request Numbers and Date as appropriate): <i>Work Order #, Purchase Order #, etc. If self-help, so state.</i>	
		COST ESTIMATE: <i>Based on \$16.00 per hour</i>	ESTIMATED COMPL. DATE: <i>To the best of your knowledge.</i>
INTERIM CONTROLS - (Must be initiated <i>IF CORRECTIVE ACTION IS NOT FULLY COMPLETED</i> . <i>SAFETY DEPARTMENT APPROVAL REQUIRED AFTER 60 DAYS.</i>)			
<i>Important!! Temporary protective measures must be initiated until corrective action is complete. Briefly describe temporary action here.</i>			
SECTION C - COMMENTS (Use to enter a continuation of any section above.)			
<i>This section completed by Safety Office.</i>			
RE-INSP. INIT: _____		DATE: _____	
RETURN THIS FORM TO THE SAFETY DEPARTMENT (Stop 18B) WITHIN 30 DAYS OF THE INSPECTION DATE.			

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CHAPTER 3

HAZARD CONTROL

301. GENERAL. Section 19(a) of the OSHA Act requires that all Federal employees be provided with a safe and healthful place of employment. To fulfill this requirement, the CNO directs each echelon of command to establish and maintain an effective hazard control program. Identification of hazardous conditions may be accomplished at the planning and design stage, as a result of facilities safety inspections (Chapter 2), annual industrial hygiene surveys (Chapter 4), or by employee reports of unsafe or unhealthful working conditions (Chapter 4). All recognized safety and health hazards will be eliminated or controlled as quickly as possible, subject to priorities based upon the degree of risk posed by the hazards. The preferred method of hazard abatement will be through application of engineering controls, possibly in conjunction with personal protective equipment. Total reliance on personal protection equipment is acceptable only when all other methods are proven to be technically and/or economically infeasible.

1. Principles of Hazard Control. Safety professionals and industrial hygienists are specialists who, through training and experience, develop proficiency in the recognition, evaluation, and control of workplace hazards. They should be thoroughly familiar with potential hazards created by various materials, equipment, and operations used in Navy facilities and are aware of special designs required by NAVOSH standards to mitigate certain hazards. Some of the principles that are applied to prevent or mitigate workplace hazards are as follows:

a. Substitution. The risk of injury or illness may be reduced by replacement of an existing (or intended) process, material, or equipment with a similar item having a more limited hazard potential.

b. Isolation. Hazards are controlled by isolation whenever an appropriate barrier or limiter is placed between the hazard and an individual who may be affected by the hazard. This isolation can be in the form of physical barriers, time separation, or distance.

c. Ventilation. The control of a potentially hazardous airborne substance by ventilation can be accomplished by one of two methods: diluting the concentration of the substance by mixing with uncontaminated air or capturing and removing the substance at its source or point of generation. The first of these methods is termed "general ventilation" or "dilution ventilation"; the second is called "local exhaust ventilation." Local exhaust ventilation is generally the preferred and more economical method of hazard control.

d. Administrative Control. This method of hazard mitigation depends on effect operating practices that reduce the exposure of individuals to chemical or physical hazards. These practices may take the form of limited access to high hazard areas, preventive maintenance programs to reduce the potential for leakage of hazardous substances, or adjusting work schedules

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which involves a regimen of work in high-hazard and low-hazard areas. Adjusted work schedules are appropriate only when the hazard is recognized as having a limit below which nearly all workers may be repeatedly exposed without adverse effect.

e. Personal Protective Equipment. This method of hazard control is least preferred because personal protective devices may reduce a worker's productivity while affording less effective protection against the recognized hazard than other methods of control. Nevertheless, there are instances where adequate levels of risk and reduction cannot be achieved through other methods; and personal protective devices must be used, either alone or in conjunction with other protective measures.

2. Application of Hazard Control Principles. Hazardous conditions in the workplace may be prevented through appropriate actions when facilities are designed, when operating procedures are developed, and when equipment is purchased. Notwithstanding these preventive measures, hazards will arise as a result of the workplace environment. Once hazards are identified, whether through inspections or complaint, immediate action will be taken to avoid unreasonable danger. The immediate response may differ from the permanent corrective action.

a. Design Reviews. Safety and occupational health aspects will be considered, designed, and engineered into all facilities which are acquired, modified, altered, or constructed for use by Navy employees. Facility design engineers in many instances are not totally familiar with all potential safety and health hazards created by various materials, equipment, and operations used in Navy facilities; nor are they aware of the special design considerations required to control these hazards. To ensure that appropriate hazard control techniques are applied, cognizant industrial hygienists and safety professionals will participate in the review of plans and specifications for these projects. Recommendations will be submitted in writing. Projects that involve potential health hazards such as toxic materials, radiation, noise, or other health hazards will be designed in accordance with established principles of good industrial hygiene engineering published in existing texts and standards such as American National Standards Institute (ANSI) of the Code of Federal Regulations.

b. Operating Procedures. Standard operating procedures or similar directives that are issued to direct the manner in which work is performed will include appropriate health and safety requirements. Integration of instructions that affect productivity with those that affect well being of workers is necessary to achieve organization goals in both areas with minimal conflict or hazards. Employees will coordinate with cognizant safety and health personnel prior to issuance to ensure that applicable NAVOSH requirements have been considered. Recommendations for changes/additions to the directive for safety and health purposes will be submitted in writing to the originator. The originator will maintain a record of such OSH coordination.

c. Purchasing Procedures. Many hazards can be avoided by incorporating appropriate specifications for purchased equipment/material and contracted efforts that involve work at Navy facilities. Obviously the Navy has little control over specifications for equipment/material purchased

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through the Federal supply system; however, a considerable amount of equipment/material is purchased directly by the Navy. Navy organizations responsible for developing specifications for such purchases will coordinate with cognizant OSH personnel to ensure that NAVOSH requirements are considered in these specifications. Similarly, contracts that require work to be performed by contract personnel at Navy facilities will be coordinated with cognizant OSH personnel.

d. Interim Hazard Abatement Measures. During the time needed to design and implement permanent hazard control measures, immediate, temporary measures are needed. Where engineering controls are not immediately applicable, administrative controls and/or personal protective equipment is appropriate for use as interim hazard abatement measures. Interim control measures will be noted in inspectors' reports, abatement logs, and hazard notices (also Chapter 2).

e. Permanent Hazard Abatement. Engineering control methods is the preferred method of hazard control, followed by administrative control and personal protective equipment. Feasible engineering controls will be used to reduce hazardous exposures, even when only partial reduction of exposure is possible through engineering methods. Two criteria may be applied 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 engineering control is insignificant in terms of increased protection and the cost of implementing the control is great, then the control is economically infeasible.

302. INSPECTION TYPES

1. Facilities Safety Inspections. Details of the objectives and administration of these inspections are contained in paragraph 205.

2. Industrial Hygiene Surveys. This is a walk-through survey performed by the NAVMEDCLINIC industrial hygienist. Objectives and administration are contained in Chapter 4.

3. Navy Occupational Safety and Health Inspection Program (NOSHIP). This is an oversight conducted by occupational safety and health professionals at the direction of the Navy Inspector General. There is no set periodicity for this inspection. Specific guidance is contained in reference (a).

4. OSH Management Evaluations. This is a compliance inspection conducted by the USNA Safety Department at the direction of the Superintendent for the USNA at least every 3 years. Specific guidance is contained in reference (a).

5. High-Hazard Area Inspections. This is a special occupational safety and health inspection conducted by the USNA Safety Department for specific areas of the USNA on a semiannual or more frequent basis. Specific guidance for this inspection is contained in reference (a).

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6. Department of Labor Occupational Safety and Health Administration (OSHA). The OSHA may conduct a localized inspection in conjunction with a civilian employee's complaint alleging a workplace hazard. There are no scheduled inspections of DOD facilities by OSHA. However, DOD facilities experiencing an uncommon increase or continuing high level of Federal Employee Compensation Claims will be targeted for full-scale inspections or administrative assistance visits as appropriate.

303. DESIGN REVIEWS. As noted in paragraph 301.2a, "Safety and Occupational Health aspects will be considered, designed, and engineered into all facilities which are acquired, modified, altered, or constructed for use by Navy employees."

1. Cost Center/Sub-Cost Center Heads

a. Prior to the initiating action which results in the modification or alteration of any equipment (noise control and guarding of moving parts) or structure (addition of exhaust ventilation, inside flammable storage room, chemical storage area, etc.), ensure that a design review is held by the Safety Department.

b. Request the advice and/or assistance of the Safety Department regarding planned changes to any equipment or structure.

2. Public Works Department/Resident Officer in Charge of Construction

a. Route through the Safety Department all requests for work which involve modifications or alterations to existing equipment and structures which do not indicate that a design review has been held by the Safety Department.

b. Submit to the Safety Department for design review all internally generated plans and specifications for modification/alteration of existing structures at the thirty and 90 percent drawing stages of preparation.

3. Safety Department

a. Coordinate with the NAVMEDCLINIC Industrial Hygienist and USNA Fire Prevention for the thorough review of drawings and/or specifications for the purpose of elimination or reduction of safety, health, fire and life safety hazards in the engineering and design phase of the project.

304. OPERATING PROCEDURES

1. Cost Center/Sub-Cost Center Heads. Submit to the Safety Department all standard operating procedures and similar directives which involve the use of machinery or toxic material for an operating procedure review.

2. Safety Department

a. Provide originators with recommendations for additions or deletions pertaining to relevant occupational safety and health standards. Operating procedure reviews will be provided to originators in writing including those which recommend no changes.

b. Procedures which involve hazardous/toxic materials will also be reviewed by the NAVMEDCLINIC Industrial Hygienist.

305. PURCHASING PROCEDURES

1. Hazardous Materials. Hazardous materials purchases will be made via the Consolidated Hazardous Materials Reutilization and Inventory Management Program (CHRIMP). All procurement of new chemical products must be approved by the Safety Department, Industrial Hygiene, and the Fire Department as appropriate.

2. New Equipment

a. Cost Center/Sub-Cost Center Heads will consult with the Safety Department on the intended purchase of any new equipment that would introduce possible hazards to the workplace.

b. Safety Department will review intended equipment purchases to ensure OSHA compliance noise abatement has been considered, location of use is compatible with available facilities, etc., and advises Department Heads/ Division Officers accordingly.

c. Any credit card purchases of new equipment or machinery with safety and/or health implications will be made in accordance within the requirements and limitations of the "U.S. Naval Academy Internal Operating Procedures for the Use of the Government Commercial Purchase Card".

3. Contract Activities

a. Department Heads/Public Works will coordinate with the Safety Department all contracts that require work to be performed by contract personnel at the Naval Station.

b. Safety Department

(1) Review submitted contracts for inclusion of applicable occupational safety and health requirements.

(2) Consult with the NAVMEDCLINIC those contracts that involve the use of toxic or hazardous materials.

(3) Review contracts involving confined or enclosed spaces to specify Confined Space Entry Program requirements.

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306. SPECIAL CONTROL STANDARDS

1. Objective. Provide standards necessary to protect employees and facilities from special hazards where documentation is not readily available or completely satisfactory.

2. Administration

a. Cost Center/Sub-Cost Center Heads

(1) Implement controls for special hazards.

(2) Advise the Safety Department when special hazards are not provided with adequately documented controls.

b. Safety Department. Review accident records and perform hazard analysis to determine equipment or operations requiring special control standards and make recommendations to the appropriate department/division and/or submission to the USNA OSH Council.

3. Limitations on Hours of Duty and Service

a. The extended hours of duty and service can cause special accident hazards. Therefore, the physical condition of the individual employee must at all times be the first consideration when extended hours of duty and service are being considered or worked. If there is any question that the extended hours will be detrimental to the employee's health or safety, the employee will not be allowed to work without concurrence of the Occupational Health Officer, NAVMEDCLINIC.

b. Regular vehicle drivers, on or off base, will comply with the hours of duty and services as restricted by Department of Transportation Motor Carrier Safety Regulations. This allows a maximum of 10 hours of driving or 15 hours of duty following 8 consecutive hours of off duty and no more than 60 hours of duty in any 7-day hours.

c. All other employees are restricted to 16 hours of duty following 8 consecutive hours of off duty, the total in any 7 day period not to exceed 60 hours.

d. No waiver of these rules is allowable for off-base drivers.

e. Waivers to any of these requirements must be approved by the Superintendent, USNA.

4. Transporting Personnel

a. Regardless of the method of transportation; be it bus, taxi, van, or truck, smoking is prohibited. Although not necessarily an immediately dangerous situation, health considerations (as defined in SECNAVINST 5100.12 Series) must be addressed.

b. Transporting personnel with equipment or material not adequately secured to prevent movement is prohibited.

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- c. Transporting personnel and flammable liquids is prohibited.
- d. The scheduled transporting of personnel without adequately secured seating is prohibited.
- e. All drivers and passengers of both government-owned and privately owned moving vehicles will wear seat belts.

307. VISITOR SAFETY PROGRAM

1. Objective. Since visitors frequently have occasion to be on the Academy, they could readily be exposed to unnecessary hazards. Visitors include salespersons, material pickup and delivery persons, tourists, meeting attendees, or special events, to base residences, for recreational purposes, applicants for employment, equipment installers, contract personnel, and many more. Their exposure to unnecessary hazards will be minimized or avoided at all times, and their safety while visiting will be of paramount importance.

a. The host guide for a visitor to a hazardous area will provide all necessary protective equipment and require its use.

b. Contractor safety is handled through the office of the Resident Office in Charge of Construction (ROICC) and the PWD Facilities Support Contracts Division. No person will make direct contact with contractors or their personnel to make safety recommendations, to give advice, or orders. The only exception involves imminent danger, and the time available will not allow for contact to be made through the ROICC. The Safety Department will be offered the opportunity to have a representative present at all pre-construction conferences to review private contractors' procedures. This review is intended to ensure that proper safety precautions are prescribed that will, to the maximum extent feasible, protect personnel from injury and/or property damage. Safety Department reviews of contractor procedures may include recommendations that are based on known potential hazards at the time of review. It is still the contractor's responsibility to ensure that all applicable regulations are followed for hazardous conditions that arise during the course of work.

2. Administration

a. Cost Center/Sub-Cost Center Heads

- (1) Enforce the observance of all applicable safety standards.
- (2) Provide training and/or personal protective equipment to visitors in hazardous work areas.

b. Safety Department

- (1) Monitor the effectiveness of the visitor safety compliance during routine inspections.
- (2) Notify the unit supervisor of problems or deficiencies.

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308. NAVY EMPLOYEE REPORTS OF UNSAFE OR UNHEALTHFUL WORKING CONDITIONS

1. Background. The prevention of accidents, injuries, and occupational illnesses is the primary objective of the Department of the Navy Safety and Occupational Health Program. Detection of unsafe or unhealthful working conditions at the earliest possible time and the prompt abatement of related hazards at the lowest possible working levels are essential elements in meeting the objective. Implementation of the provisions set forth below will provide a means to achieve this end. To minimize the necessity for personnel to resort to written reports or appeal procedures, all management and supervisory personnel have responsibility for initiating prompt corrective action for unsafe or unhealthful conditions existing within their areas of authority and for initiation of work stoppage where imminent danger situations are observed.

2. Definitions of Violations

a. Imminent Danger. Any condition(s) or practice(s) in any place of employment in which a danger exists that could reasonably be expected to cause death or serious physical harm immediately or before the danger can be eliminated or abated.

b. Serious Violations. Violations in which there is a substantial probability that death or serious physical harm could result.

c. Nonserious Violations. Violations where an accident or occupational illness would probably not cause death or serious physical harm, but would have a direct or immediate relationship to the safety or health of employees.

d. De Minimis Violations. Violations which have no direct or immediate relationship to safety or health. An example would be where the height of letters on an exit sign does not meet appropriate standard.

3. Navy Employee Reports and Actions

a. Any Navy employee or representative of such employees who observes an unsafe or unhealthful practice or condition should advise the cognizant workplace supervisor. The supervisor will investigate the reported hazard and initiate appropriate corrective actions. Supervisors will contact the Safety Department for assistance as necessary and will keep the reporting employee informed of all actions taken.

b. Employees may make a written report of a hazardous condition to the Safety Department using OPNAV Form 5100/11 (Figure 3-1). Oral reports will also be accepted and will be processed in the same manner as written reports.

c. Employees desiring anonymity may do so by checking the "YES" block on OPNAV Form 5100/11.

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4. Action

a. Cost Center/Sub-Cost Center Heads

(1) Encourage employee participation in the identification and reporting of unsafe or unhealthful conditions.

(2) Encourage oral reports of hazards by employees to workplace supervisors for the purpose of ensuring prompt correction of hazards at the lowest level of management.

(3) Ensure prompt corrective action for unsafe and unhealthful conditions. When imminent danger situations are observed, corrective action will be immediate or work stoppage will be initiated.

b. Safety Department

(1) Upon the receipt of a hazardous report, contact the originator by telephone to acknowledge receipt and discuss the seriousness of the reported hazard.

(2) Advise the cognizant supervisor that a hazard has been reported. (Maintain the anonymity of those employees who have requested it.)

(3) Investigate all reports. Alleged imminent danger situations will be investigated within 24 hours. Potentially serious situations will be investigated within 3 days. If the reported situation involves a health hazard, as opposed to a safety hazard, refer the report to the Occupational Health Officer, NAVMEDCLINIC for investigation as necessary.

(4) Provide an interim or complete response in writing to the originator of the report within 10 working days of receipt. In cases where an interim response is given, a projected date of completion will be provided. A complete response will be provided upon the correction of the hazard. The complete response will indicate the appropriate channels for formal appeal. In the event that a hazard report also involves a grievance action, the hazard report need not be processed unless it indicates a need for priority action in the interest of safety or health.

5. Appeal Procedures

a. If the originator of a report is dissatisfied with the assessment of the alleged hazard made by the Safety Department or with actions taken to abate a confirmed hazard, he or she is encouraged to confer with the Safety Manager to discuss the matter further. If, after this discussion, the originator remains dissatisfied, an appeal to the Deputy for Operations may be made. The appeal (or report) will be in writing and contain, at least, the following information:

(1) A description of the alleged hazard including its location and standards violated (if known). A copy of the original hazard report will suffice;

(2) How, when, and to whom the original report of the alleged hazard was submitted;

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(3) What actions (if known) were taken as a result of the original report.

b. The Deputy for Operations, or a representative, will respond to the originator of the appeal within 10 working days. An interim response will suffice if the investigation is incomplete at that time. The final response will contain the office and address of the next higher level of appeal.

c. If the employee is still dissatisfied or has not received a response within 20 working days, he or she may appeal to the Superintendent. Subsequent appeals may be submitted if the originator is still not satisfied with the action taken as a result of the previous appeal. He or she may appeal to CNO (N45), ASN(I&E), and the Deputy Under Secretary of Defense (Environmental Security) (DUSD(ES)). Each appeal will include the information prescribed in paragraph 308.5a (1)-(3) with emphasis on the actions taken by the reviewing authority on the previous appeal satisfied. Each response by the reviewing authority will be as prescribed in paragraph 308.5b.

d. The final appeal authority for military personnel is the DUSD(ES). In the event that a civilian employee is not satisfied with the response from the DUSD(ES), he or she may contact, in writing, the Office of Federal Agency Safety Programs, U.S. Department of Labor, Washington, DC 20210. This final appeal must describe in detail the entire previous processing of the appeal and set forth objections thereto.

6. Reports to OSHA. The preceding procedures of this paragraph provide a mechanism for all Navy employees to report unsafe and unhealthful working conditions for in-house resolution. Navy civilian employees may also submit complaints alleging workplace hazards directly to the Department of Labor (OSHA); however, the Secretary of Labor encourages employees to use the Navy in-house hazard reporting procedures as the most expeditious means to achieve abatement. Such complaints may serve as the basis for investigations or inspections by OSHA officials.

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CHAPTER 4

OCCUPATIONAL HEALTH AND INDUSTRIAL HYGIENE401. GENERAL

1. The occupational health and industrial hygiene activities are administered by the Director, Preventive Services, NAVMEDCLINIC, Annapolis, in close cooperation with the USNA Safety Department.

2. Occupational Health is concerned with:

- a. Evaluation and treatment of work-related injuries and illnesses.
- b. Preplacement, special purpose, and termination physicals.
- c. Preventive programs related to health including medical surveillance examinations.
- d. Maintenance of employee medical records.
- e. Emergency evaluation and treatment of nonoccupational illnesses reported while at work.
- f. Participation in the Physical Demands Program including the determination of physical requirements and the physiological disabilities of the individual worker and the preparation of work limitation orders.
- g. Completion of medical reports required by higher authority and the Office of Workers Compensation Programs.

3. Industrial Hygiene is concerned with:

- a. Inspecting workplaces to identify and evaluate hazards and recommend controls or corrective measures to protect employee health.
- b. Reviewing records with Occupational Health to determine the need for corrective action in the workplace or use of protective equipment.
- c. Operating an education program for improvement of workplace conditions.
- d. Including all facets of industrial hygiene in the overall program for accident and illness prevention.

402. OCCUPATIONAL HEALTH1. Physical Examinations

a. Objective. To provide a systematic program of periodic physical examinations of selected workers to ensure their health and efficiency. In addition, periodic special examinations are provided on a voluntary basis.

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b. Preplacement Physical Examination. Certain employees, at the time they are hired, transferred in, or upon change of occupation, are required to report to Occupational Health at the NAVMEDCLINIC for a preplacement physical examination or interview. The extent of the examination will be determined by Occupational Health based on occupation.

c. Periodic Physical Examinations. Certain employees are exposed to chemical or physical hazards; such as, asbestos, airborne lead fumes or dust, hazardous noise, laser beams, pesticides, herbicides, and require special and/or annual physical examinations. Periodic medical examinations will be based primarily on the results of the most recent industrial hygiene survey.

d. Termination Physical Examination. Certain employees will receive a termination physical examination or interview at separation or transfer. The extent of the examination will be determined by the Occupational Health Officer based on the employee's exposure history and any special or periodic physical examinations previously required.

e. Special Health Program. Employees will be provided occasional opportunities to participate voluntarily in special health maintenance programs; such as, those for TB detection or influenza immunization.

f. Administration

(1) Cost Center/Sub-Cost Center Heads

(a) At the request of NAVMEDCLINIC, make all necessary arrangements for each identified employee to be present for the required examination.

(b) Assure supervisors monitor their subordinates for any apparent health changes that may be related to work and arrange for a medical consultation and/or examination.

(c) Take corrective action to implement recommendations of Occupational Health.

(2) Human Resources Department

(a) Provide a Certificate of Medical Examination for all new employees to NAVMEDCLINIC Occupational Health to establish medical records and provide physical examination requirements as requested.

(b) Make sure personnel requiring termination physical examinations check out through NAVMEDCLINIC Occupational Health.

2. Hearing Conservation Program

a. Objective. The goal of the Navy Hearing Conservation Program is to prevent occupational noise-related hearing loss among Navy personnel. The program will include the following elements:

(1) Work environments will be surveyed to identify potentially hazardous noise levels and personnel at risk, where feasible.

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(2) Environments that contain, or equipment that produces potentially hazardous noise levels should be modified to reduce the noise level to acceptable levels. Where engineering controls are not feasible, administrative controls and/or the use of hearing protection devices will be employed.

(3) Periodic hearing tests will be conducted to monitor the heavily exposed workers as well as the effectiveness of the Hearing Conservation Program. Early detection of temporary threshold shifts allows further protective action to be taken before permanent hearing loss occurs.

(4) Education is vital to the overall success of a Hearing Conservation Program. Understanding the permanent nature of noise-induced hearing loss, the Naval Station Hearing Conservation Program, and the individual's responsibilities in hearing conservation are all essential.

b. Administration

(1) Occupational Health

(a) Conduct audiometric testing of employees.

(b) Procure, fit, and issue noise protective ear plugs.

(2) NAVMEDCLINIC Industrial Hygiene in cooperation with the Naval Station Safety Office will:

(a) Conduct noise measurement surveys and recommends to the Public Works Officer and/or appropriate Cost Center/Sub-Cost Center Heads those areas where engineering studies should be made to abate hazardous noise.

(b) Identify those areas and operations which are noise hazardous and ensure that they are appropriately posted.

(c) Advise operating departments in their noise abatement efforts.

(d) For those areas and operations designated as noise hazardous, require evaluation on an annual basis.

(e) **Maintain** a current roster of all personnel exposed to hazardous noise and keep Occupational Health advised of all additions and deletions.

(3) Public Works Department will provide, on request, recommended engineering controls to reduce hazardous noise to acceptable levels wherever technologically and economically feasible.

(4) Cost Center/Sub-Cost Center Heads

(a) Conduct continuing hazardous noise abatement efforts based on recommendations by Industrial Hygiene, the Safety Department, and Public Works engineers.

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(b) Inform the Safety Department of those areas and jobs that are considered noise hazardous, including all areas where voice communication difficulties are noted; e.g., using loud voices at short range (arm length between persons).

(c) Provide ear protection devices approved by the Safety Manager.

(d) Enforce the use of hearing protective devices in noise hazardous areas when the noise source is in operation.

(e) Require that all employees assigned to noise hazardous area or jobs are in the audiometric testing program, including preplacement testing in addition to periodic testing.

(f) Advise the Safety Department of any proposed engineering or equipment changes that could result in an increase or reduction of established noise levels so that new sound levels can be ascertained.

(5) Supervisors

(a) Enforce the wearing of hearing protective devices in the presence of hazardous noise.

(b) Ensure adequate quantities of hearing protective devices are available for noise.

(c) Make sure that persons subject to hazardous noise are in the audiometric testing program and that their names are on file with the Safety Office.

(d) Include Navy Hearing Conservation Program in work unit safety training. Encourage personnel to use hearing protection off duty when exposed to noise hazards such as power equipment.

3. Sight Conservation Program

a. Discussion. Navy policy requires that Navy personnel employed in eye hazardous areas or operations be provided adequate eye protection at government expense. Employees will be required to wear appropriate eye protective equipment when performing eye hazardous operations such as pouring or handling of molten metals or corrosive liquids and solids, cutting and welding, drilling, grinding, milling, chipping, and grit-blasting, or other dust-producing operations. Any persons in the vicinity of such operations, including other workers, supervisors, or visitors, will also be required to wear eye protective equipment. The basic elements of the USNA Sight Conservation Program are:

(1) Determination/Evaluation of eye hazards, processes, and occupations.

(2) Operation of an employee vision screening program.

(3) An effective equipment maintenance program.

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- (4) Procedures for use and application of temporary eyewear.
- (5) A comprehensive training/education program.
- (6) Effective program enforcement procedures.

b. General

(1) Any employee who is found to have vision in one eye which is 20/200 (corrected) or worse will be considered visually impaired. Employees who have visual impairment will not be assigned duties which would present a hazard to his or her remaining eye. In addition, such employees will wear protective eyewear at all times regardless of his/her occupation or work station while at the USNA or off base on official business.

(2) Contact lenses cannot be worn in hazardous operations/areas where there is a reasonable probability that dust or airborne particulates may lodge between the lens and the eye, resulting in injury.

(3) It is management's responsibility to provide eye protection equipment, and it is the employee's responsibility to use the equipment, when required.

(4) Personnel working with or near potentially harmful chemicals or other corrosive materials must know the location of the nearest eyewash fountain and how to use it.

(5) Personnel requiring prescription safety glasses will be given an eye exam by the NAVMEDCLINIC Eye Clinic and provided with prescription safety eyewear at no cost.

(6) Simple first aid measures: No attempt should be made to remove a particle lodged in the eyeball or to wash an eye that has been cut in any way. A clean dressing can be placed lightly over the eye until the victim gets medical help. Cold compresses should be applied to a bruised eye. Chemical burns call for immediate flushing with copious amounts of potable water. Medical attention is required in all eye injury cases regardless of apparent severity.

c. Administration

(1) Naval Medical Clinic

(a) Provide vision screening for employees as noted in paragraph 402.1b and advise the Safety Office of all employees who are **visually impaired** as defined in paragraph 404.3b(1).

(b) Provide eye examinations and refractive services as requested by the USNA Safety Office.

(2) Safety Office

(a) Maintain a listing of all areas, processes, and occupations which require eye protection.

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(b) Procure prescription safety glasses as needed.

(c) Reevaluate designated eye hazardous areas and processes during scheduled facilities safety inspections to determine the continuing need for eye protection.

(d) Ensure that the requirements of the Sight Conservation Program are enforced.

(e) Develop and implement a sight conservation education program and curriculum.

(f) Request prescription safety glasses for subordinates using USNA Form DME-5100/04, (Figure 4-1) or DME-5100/24, (Figure 4-2) whichever is applicable. Forms are available in the Safety Office.

4. Radiological Safety Program

a. Objective. Ensure through provision of proper facilities, equipment, maintenance procedures, monitoring devices, and medical examinations that the level of employee exposure to radiation is properly controlled and minimized.

b. General. Adequate precautionary measures will be established to prevent excessive exposure of personnel to ionizing radiation.

c. Administration. The administration of this program is covered in USNAINST 11080.1C.

5. Laser Safety Program

a. General. The application of lasers, both commercial and military, have increased the probability of personnel exposure to injurious levels of laser radiation.

b. Administration. The administration for this program is covered in USNAINST 5100.13B.

403. INDUSTRIAL HYGIENE

1. General. Industrial Hygiene personnel recognize, evaluate and make recommendations to control potential workplace hazards. Evaluation of workplace requires a sound, logical workplace exposure assessment. The purpose of the assessment is to:

- a. Assess potential health risks faced by personnel
- b. Differentiate between acceptable and unacceptable exposures
- c. Control unacceptable exposures
- d. Establish and document a historical record of exposure levels
- e. Communicate exposure-monitoring results

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f. Ensure and demonstrate compliance with Federal and Navy criteria.

2. Administration

a. NAVMEDCLINIC

(1) Provide the USNA with a periodic industrial hygiene survey based on hazard category to include as a minimum, the following information:

(a) Descriptions of operations, tasks and work practices that take place in the workplace. This description shall include a layout sketch incorporating relevant aspects of the number of persons assigned to the operation/task and the specific work area occupied.

(b) A list of physical hazardous in the workplace that present significant risk including a description of their sources.

(c) A description of existing controls.

(d) Groups of workers expected to have similar exposure.

(2) Exposure Assessment. Based on the information obtained during the walk-through surveys, assess if there is significant personal exposure to toxic chemicals and/or harmful physical agents. A written record will be maintained for each workplace where toxic chemicals and/or harmful physical agents may be found. The record will include the rationale for any negative determination.

(3) Workplace Monitoring Plan. Develop and implement a workplace-monitoring plan for each workplace where the exposure assessment indicates that an employee may be exposed to toxic chemicals and/or harmful physical agents.

(4) Workplace Monitoring Program

(a) Maintain the workplace-monitoring plan.

(b) Conduct periodic sampling as specified by the plan.

(c) Evaluate and interpret the data to determine the degree of personnel exposure.

b. Safety Department. Coordinate Workplace Monitoring Program requirements and activities with the NAVMEDCLINIC Industrial Hygienist as needed.

404. BLOODBORNE PATHOGENS

1. The NAVMEDCLINIC will ensure provisions for the conduct of a bloodborne pathogens control program consistent with the requirements of 29 CFR 1910.1030.

2. The program will provide for a written exposure control plan designed to eliminate or minimize employee exposure per Section 1910.1030(c)(1).

3. Responsibilities

a. Safety Department

(1) Ensure Exposure Control Plan is reviewed and updated per OPNAVINST 5100.23E.

(2) Coordinate with affected departments to ensure Bloodborne Pathogens Control Program training is being conducted.

(3) Ensure the exposure control plan is accessible to employees.

b. NAVMEDCLINIC

(1) Act as the final technical authority with respect to the exposure control program.

(2) Make Hepatitis B vaccination available to all employees who have occupational exposure after completion of required training and within 10 days of initial assignment.

(3) Ensure employee receives a confidential medical evaluation following report of an exposure incident.

(4) Maintain all exposure control records.

c. Departments for which the Bloodborne Pathogens Control Program Applies

(1) Ensure the observance of universal precautions to prevent contact with blood and other potentially infectious material.

(2) Establish engineering and work practice controls to eliminate or minimize employee exposure.

(3) Provide the NAVMEDCLINIC specific information following any exposure incident.

405. OCCUPATIONAL REPRODUCTIVE HAZARDS

1. A reproductive hazard is defined as any occupational stressor (biological, chemical, or physical) that has the potential to adversely affect the human reproductive process. For example, it is well known that central nervous system problems often occur in the offspring of mothers exposed to organic mercury during pregnancy. Therefore, based on the examples cited, organic mercury can be classified as a reproductive stressor. Many reproductive hazards also cause other adverse health effects; for example, ethylene oxide is also known to be a carcinogen (i.e., produces cancer).

2. In recent years, concern over reproductive hazards in the workplace has increased significantly. Reasons for this heightened concern include:

a. More and more women are found in the industrial setting (even though many reproductive hazards also affect men).

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- b. Increased knowledge of the adverse health effects.
- c. Introduction of more exotic materials in the workplace.
- d. Increased media attention to these hazards, in particular when litigation is involved.

In March 1991, a landmark decision by the United States Supreme Court ruled that women of childbearing age could not be excluded from employment as a precautionary measure to protect a fetus (existing or future) from exposure to a reproductive hazard and that such an exclusionary policy is in violation of existing Equal Employment Opportunity legislation.

3. Policy

- a. USNA will provide safe and healthful working conditions for all employees that will not damage or affect their fertility or offspring.
- b. Occupational exposure criteria (Permissible Exposure Limits etc.) that considered reproductive dysfunction are limited. The goal is to keep exposures to all reproductive chemical stressors listed in Figure 4-3 as low as reasonably achievable.
- c. No individual shall be denied employment due to potential exposure to reproductive hazards/stressors. Furthermore, administrative controls implemented to minimize exposure to reproductive hazards shall not result in reduction of pay or promotion potential.

4. Responsibilities

a. NAVMEDCLINIC

- (1) Conduct a reproductive hazard assessment (including negative determinations) as part of annual and/or periodic industrial hygiene surveys. Reproductive stressors shall be clearly annotated on the list of hazardous materials.
- (2) Make recommendations to reduce exposure to reproductive hazards via elimination or substitution.
- (3) Specify personal protective equipment (PPE), including respirators, as a last resort when other abatement methods are not possible. Care shall be exercised to ensure that the PPE does not pose a heat stress, heavy lifting, or other reproductive hazard in itself.
- (4) Conduct a reproductive hazard medical surveillance program, initial intervention strategies, provide education, and analyze data on adverse reproductive outcomes based on the findings of Industrial Hygiene.
- (5) Provide counseling to patients who have been directly exposed (or indirectly via a spouse's workplace exposure).

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b. Supervisors

(1) Refer pregnant personnel, or others who may be exposed to occupational reproductive stressors, to the NAVMEDCLINIC, Occupational Health (or personal physician if the employee prefers).

(2) Fill out, with the employee, the Occupational Exposures of Reproductive Concern questionnaire and submit it to the Occupational Health Clinic.

(3) Implement hazard abatement actions as specified by the Industrial Hygienist and/or Safety Office.

c. Safety Department

(1) Advise managers and supervisors on required measures to reduce reproductive stressors and actions to be taken when the need for a medical evaluation arises.

(2) Provide guidance to the hazardous materials warehouse personnel on the substitution of reproductive hazardous chemicals with safer products.

(3) Coordinate training of personnel on occupational reproductive hazards and Navy policy. Such training may be included in the command indoctrination program or as part of the Hazard Communication Program.

(4) Ensure that prescribed personal protective equipment is provided.

(5) Function as the USNA liaison on all matters pertaining to this program.

(6) Refer all employee questions regarding pregnancy employment issues to the USNA Human Resources Department.

406. INDOOR AIR QUALITY MANAGEMENT

1. Poor indoor air quality (IAQ) detracts from the quality of the work environment. Problems such as uncomfortable air temperature and humidity can decrease productivity. To increase the level of comfort and productivity in the work environment, an effort should be made to evaluate, maintain, and improve IAQ.

2. 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. Low humidity may lead to dryness and irritation of the nose, throat, skin, and eyes. High humidity aids in the growth of certain molds. Susceptible individuals can experience allergic reactions to mold spores and particulate matter from the breakdown of mold protein.

b. Carbon Dioxide (CO2) Levels. Lack of sufficient fresh air leads to high carbon dioxide concentrations in work spaces. Lack of fresh air may cause fatigue, drowsiness, poor concentration, and the sensation of temperature extremes without actual temperature changes. Increased CO2 levels are considered an indicator of poor ventilation. CO2 levels are not correlated with other contaminant levels but with the ability of the ventilation system to provide and circulate fresh air and dilute, remove, and recirculate "stale" air.

c. Off-gas Chemicals. Many modern office furnishings and equipment contain off-gas chemicals. Adhesives, carpeting upholstery, manufactured wood products, copy machines, pesticides, and cleaning agents are examples of items that off-gas.

d. Tobacco Smoke. Smoking and second hand smoke, otherwise known as environmental tobacco smoke (ETS), contributes to poor IAQ. According to the U.S. Environmental Protection Agency, tobacco smoke contains roughly 4,700 different chemical compounds, including about 43 carcinogens. ETS causes eye, nose, and throat irritation, headaches, and bronchitis. In 1986, approximately 23,000 U.S. nonsmokers died from lung cancer. The U.S. Surgeon General attributed a substantial number of those deaths to ETS. In addition, ETS contributes to heart disease.

e. Biological Contamination. Biological contaminants such as bacteria, molds, pollen, and viruses may be present in stagnant water, air ducts, humidifiers, drain pans. Water-damaged material and insect and bird droppings contribute to biological contamination. Biological contaminants can trigger allergic reactions, some types of asthma in susceptible individuals, and can cause some common infectious diseases.

f. Building Modifications. Physical modifications within buildings usually generate dust. Improper isolation techniques can release asbestos, lead, and other contaminants into the renovated building's ventilation systems.

3. Proper designs for new and renovated buildings preclude many IAQ problems. However, structures that have been modified may experience heating, ventilating and air conditioning (HVAC) problems, (e.g., HVAC not capable of providing adequate fresh air for new uses of the space).

4. IAQ Investigation Approach. Individuals or departments working in buildings with indications of poor IAQ shall report the problem(s) to their immediate supervisors. The supervisors shall coordinate all contact with the PWD or First Lieutenant, and the Safety Manager shall request that the Industrial Hygienist initiate an IAQ investigation.

5. ETS. A prime source of poor IAQ is environmental tobacco smoke. Many nonsmokers find environmental tobacco smoke offensive for indoors. DOD mandates smoke-free workplaces. It is U.S. Navy policy to protect all personnel in working and public living environments from involuntary exposures to ETS.

a. Smoking is prohibited in all government vehicles and buildings. This applies to all Navy and Marine Corps active duty, civilian, dependents, and visitors in DON-controlled locations.

b. Smoking is only permitted in individually assigned family and bachelor living quarters and in Navy lodge rooms designated for smoking except when individual housing units are served by a common HVAC system. In such circumstances, management should make reasonable efforts to designate sufficient smoking quarters for smoking members. No air from smoking quarters shall be recirculated with air entering nonsmoking quarters.

c. Smoking is not permitted in common spaces of multiple housing units (e.g., family housing apartment complexes, bachelor quarters, Navy lodges, etc.). A common space is defined as any space within a building common to all occupants and visitors such as corridors, elevators, lobbies, lounges, stairways, rest rooms, cafeterias, snack bars, barber shops, laundry rooms, etc.

d. Outdoor areas designated for smoking will not be located in areas commonly used by nonsmokers (e.g., entrance areas), and will not be in the immediate vicinity of supply air intakes or building entry ways/egresses.

6. Facility Design and Maintenance Requirements

a. New and renovated buildings shall be designated and constructed to meet the latest American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) standards.

b. Air intakes and exhaust vents or stacks should be properly located during new and renovated building construction.

(1) Fresh air intakes shall not be located above the loading docks. This avoids pulling truck exhaust and odor from dumpsters directly into the building. Fresh-air intakes should be located on the prevailing wind side of the building.

(2) Exhaust vents should be located on the opposite side of the building from fresh-air intakes.

(3) Extend all exhaust stacks or chimneys beyond the roof line of the building. They should attain sufficient height to ensure that exhaust gases release into the true airflow over the building. If located lower than the true airflow, exhaust gases could swirl at the edges of the building and be pulled back inside through a fresh-air intake.

(4) Caps shall not be placed over exhaust stacks or chimneys. Bird and debris screens should be used over all HVAC intake and exhaust openings.

c. New and renovated buildings shall be designated to ensure HVAC systems are accessible for maintenance actions, especially preventive maintenance.

d. Personnel shall not make unauthorized modifications to the HVAC systems, (e.g., blocking off vents, cutting into duct work to create new vents, removing inspection panels and ceiling tiles, etc.).

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e. HVAC systems shall not be modified for energy conservation in such a way as to harm adequate air quality (e.g., sealing outdoor air intakes).

7. Cost Center/Sub-Cost Center Heads

a. Establish smoke-free buildings and zones.

b. Ensure that IAQ issues are considered in the design of new buildings.

c. Coordinate with NAVFACENCOM to ensure that new building design adheres to the ASHRAE standards.

d. Develop and implement an effective program of routine inspections and preventive maintenance of all HVAC systems and spaces, including HVAC accessibility.

e. Ensure that employee concerns or complaints of IAQ problems are investigated and resolved in a timely manner using the procedures.

f. Ensure HVAC system meets the requirements as stated in section 406 of this instruction.

g. Report alleged IAQ problems to Building First Lieutenants who in turn must notify the Public Works Department and Safety Department.

8. Responsibilities

a. Supervisors

(1) If poor IAQ is indicated or reported, conduct an investigation for possible immediate causes (e.g., vehicle exhaust near an air intake, chemical usage, smoking, etc.).

(2) Assist personnel conducting IAQ investigations by providing information on processes, modification, or any other possible factors impacting the work environment.

(3) If possible take appropriate action(s) to eliminate the cause of poor IAQ. If corrective action cannot be immediately taken, initiate interim measures as prescribed by PWD, Safety Department, and/or medical personnel.

b. Safety Department

(1) Coordinate with management and the Public Works Department in finding an immediate cause and solution to IAQ problems.

(2) Contact Industrial Hygiene to initiate an IAQ investigation if the cause cannot be immediately determined.

(3) Check for potentially poor IAQ causes as a part of scheduled safety inspections.

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c. NAVMEDCLINIC

(1) Provide Industrial Hygiene request to investigate alleged poor IAQ.

(2) If necessary, initiate a request for the services of Consultative Assistance Team to assist in IAQ investigation beyond the scope of local health and safety personnel.

(3) Include an evaluation of any obvious potential poor IAQ causes in scheduled industrial hygiene surveys.

(4) Provide medical evaluations to personnel experiencing symptoms from alleged poor IAQ.

REQUEST FOR SIGHT SCREENING EXAMINATION

Date: _____

From: _____
(Department/Division/Work Center)

To: Naval Medical Clinic
Via: Safety and Occupational Health Manager

1. It is requested that _____
(Name of Employee)
be given a sight screening examination for the purpose of obtaining prescription safety glasses.
The eye hazard(s) encountered by this employee is/are: (be specific)

2. Employee functions for the government as a: _____
(Job Title)

3. Eye hazardous area: _____
(Give location, e.g., Carpenter Shop)

Individuals retiring or separating from the U.S. Naval Academy within 60 days are not eligible for new prescription safety glasses.

(Signature of Supervisor)

Approved:

Safety and Occupational Health Manager

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VERIFICATION FOR LOST/STOLEN/DAMAGED PRESCRIPTION SAFETY GLASSES

Date: _____

From: _____
(Department/Division/Work Center)

To: Safety Department

1. It is requested that _____
(Name of Employee)
be issued a replacement pair of prescription safety glasses. The reason for this re-issue is:
(be specific) _____

2. The employee's last issue of prescription safety glasses was _____

Individuals retiring or separating from the U.S. Naval Academy within 60 days are not eligible for new prescription safety glasses.

(Signature of Supervisor)

Approved:

Safety and Occupational Health Manager

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Appendix 29-B
Occupational Reproductive
Chemical Stressors List^A

Chemical	Class	PEL	TLV	Type of Stressor	
Acetohydroxamic acid	*	-	-		D
Aminopterin	Insecticide	-	-	F	D
Arsenic	Pesticide	+	+		D
Benomyl	Fungicide	+	+	M	D
Benzene	*	+	+	M	D
Bromoxynil	Herbicide	-	-		D
Cadmium	Metal	+	+	M	D
Carbon disulfide	Solvent	+	+	M F	D
Carbon Monoxide	*	+	+		D
Chlordecone(Kepone)	Insecticide	-	-		D
Cyanazine	Herbicide	-	-		D
Cycloheximide	Fungicide	-	-		D
Cyhexatin	Insecticide	-	+		
D					
Dinocap	Insecticide	-	-		
D					
Dinoseb	Insecticide	-	-	M	D
1,2-Dibromo-3-chloropropane	Nematocide	+ R	-	M	
m-Dinitrobenzene	*	+	+	M	
o-Dinitrobenzene	*	+	+	M	
p-Dinitrobenzene	*	+	+	M	
Epichlorohydrin	Solvent	+	+	M	
Ethylene glycol monoethyl ether	Solvent	+	+	M	D
Ethylene glycol monoethyl ether acetate	Solvent	+	+	M	D
Ethylene glycol monomethyl ether	Solvent	+	+	M	D
Ethylene glycol monomethyl ether acetate	Solvent	+	+	M	D
Ethylene oxide	Sterilizing Agent	+ R	+	F	
Hexachlorobenzene	*	-	+		D
Hydroxyurea	*	-	-		D

Figure 4-3

Chemical Stressor	Class	PEL	TLV	Type of		
Lead	Metal	+ R	+	M	F	D
Mercury and mercury compounds	Metal	+	+			D
Methyl bromide	Fumigant	+	+			D
Methyl mercury	Organometal	+	+			D
Nickel carbonyl	*	+	+			D
Polybrominated biphenyls (PBBs)	*	-	-			D
Polychlorinated biphenyls(PCBs)	*	+	+			D
2,3,7,8-Tetrachloro-dibenzo-para-dioxin (TCDD)	*	-	-			D
Toluene	Solvent	+	+			D
Warfarin	Rodenticide	+	+			D

D)

A = Source for this information is 31 March 1998 Navy Reproductive Hazards Review Board Meeting

M = Male

F = Female

D = Developmental

* = Unable to classify into a single functional class

PEL = OSHA's permissible exposure limit (PEL)

TLV= ACGIH threshold limit value (TLV)

+ = Exists

- = Does not exist

R = Level considers reproductive effects

Figure 4-3

CHAPTER 5

EDUCATION AND TRAINING

501. GENERAL. The greater the individual employee's level of knowledge concerning OSH matters, the more likely the workplace will be safe and accident free. The widespread dissemination of specific OSH training and education through formal training schools, formal and informal safety education meetings, and all other means available will be used.

502. NEW MANAGER SUPERVISOR OSH TRAINING Within 180 days of appointment, newly appointed supervisors will receive OSH training by the Safety Department to acquaint them with their responsibilities in the overall OSH program. This training may be incorporated into the command indoctrination program. The Safety Department will schedule OSH training, for new supervisors every 6 months.

503. PERIODIC MANAGEMENT AND SUPERVISORY OSH TRAINING

1. Objective. Periodically provide OSH training to better educate management and supervisors in the established safety standards, occupational health, and industrial hygiene so as to enable them to recognize unsafe/unhealthful working conditions and practices in the workplace.

2. Frequency. As needed based on the degree of hazards within the scope of each supervisor's operations.

3. Administration

a. The Safety Department will develop and coordinate the training.

b. The Safety Department will coordinate all OSH training on specialized topics using such media as films, handouts, etc.

504. WORK AREA/SHOP OSH TRAINING

1. Objective. Provide a means for the regular meeting of supervisors and their subordinates to review work area/shop safety and also to discuss safety improvements, problems, and ideas.

2. Frequency. A minimum of one training session monthly. Supervisors are **strongly** urged to conduct OSH training more frequently and/or prior to performing high risks jobs.

3. Reports. Report each OSH training session to the Safety Department on USNA Form DME 5100/35 (Figure 5-1).

4. Administration. Individual supervisors will prepare, coordinate, and ensure that OSH training has full attendance and make reports as noted above.

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505. NEW EMPLOYEE ORIENTATION (SAFETY)

1. Objective. To advise new employees of their rights and responsibilities under the NAVOSH Program.
2. Administration. The Training Officer will advise the Safety Manager of new employees and incorporate safety into the indoctrination program.
3. Action. The Safety Manager or a trained representative will conduct new employee safety indoctrination to include:
 - a. Navy and USNA Safety and Occupational Health policy.
 - b. Employee Safety Responsibilities and Rights (including mishap reporting).
 - c. Principles of Hazard Recognition and Control.
 - d. Employee Hazard Reporting Procedures.
 - e. Mishap Reporting Procedures.
 - f. Introduction and Overview of OSHA Hazard Communication Program and the Navy Hazardous Materials Control and Management Program, including local implementation.
 - g. Overview of commonly used hazardous materials used on USNA.
 - h. Specific hazards commonly encountered on USNA.
 - i. Principles of Risk Assessment.
 - j. Fire Prevention.
 - k. Introduction to the local Occupational Health Program.

506. SPECIAL OSH TOPICS

1. Throughout each year the Safety Department will coordinate/conduct training on specialized topics. Such training may be large scale or tailored to individual shops.
2. Special training topics will be promulgated on the annual training plan and will be announced at least 2 weeks in advance.

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CHAPTER 6

MISHAP REPORTS601. GENERAL

1. Thorough investigation and reporting of mishaps is essential to administering an effective safety and occupational health program. Mishap data supplies information vital to planned and coordinated mishap prevention activities at all levels.

2. Mishaps will, therefore, be immediately reported and investigated so that:

- a. Appropriate remedial action can be taken to prevent recurrence.
- b. The best factual data is obtained.
- c. The details of materials handling equipment, vehicle, and property damage mishaps are current and complete.
- d. The details of personal injury mishaps are current and complete.
- e. Timely reports required by higher authority are dispatched.
- f. A statistical analysis may be performed for the purpose of determining future mishap prevention efforts.

3. The requirements for mishap investigating and reporting, as outlined in this chapter, will be followed by all military and civilian personnel. A brief summary of these requirements is listed in question and answer format in Figure 6-1 and 6-2.

a. Each employee will report any mishap whether personal injury, vehicle, or property damage, no matter how slight, to his/her supervisor by the most rapid means available.

(1) Serious injury is defined as any personal injury requiring more than first aid treatment and return to duty.

(2) Serious damage is defined as any incident that stops or impairs continued operations, will undoubtedly require more than \$10,000.00 to repair, or involves any type of explosive material or ordnance.

602. PERSONAL INJURY MISHAP1. Employee

- a. Make immediate report to the supervisor.

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b. If civilian, complete applicable sections of the Office of Worker's Compensation Program, Form CA-1, Federal Employee's Notice of Traumatic Injury and Claim for Continuation of Pay/Compensation or Form CA-2, Federal Employee's Notice of Occupational Disease and Claim for Compensation.

c. If military, upon reporting to the NAVMEDCLINIC or Branch Dispensary for treatment, a mishap report will be completed and forwarded to the Safety Department.

2. Supervisor

a. Respond to the scene and ensure that the area is secure until an investigation is complete. If serious, as previously defined, also advise the Safety Department.

b. Prepare Dispensary Permit (OPNAV Form 5100/9) (Figure 6-3) in triplicate for administrative purposes when sending employees to the NAVMEDCLINIC for treatment.

c. Perform initial investigation of the mishap and complete Supervisor's Report of Mishap (Injury) (USNA DME 5100/7) (Figure 6-4). Forward the original to the Safety Department within 3 days of mishap.

d. Ensure the employee is cleared through the Occupational Health Clinic upon return to duty.

e. Ensure that all injured employees and witnesses to injuries complete CA-1 or CA-2 and complete the supervisor's portion of same and forward to the Safety Department within 5 working days.

3. Safety Department

a. Assist departments, on request, in the proper and timely completion of the Supervisor's Report of Mishap.

b. When received, ensure proper and timely disposition of reports and records.

c. Investigate the follow-up on all reports of serious injuries or incidents involving possible personnel protective equipment failure to ensure that corrective measures are taken.

d. Make the appropriate reports. All serious mishaps must be investigated by the Safety Department.

4. NAVMEDCLINIC

a. Complete Dispensary Permit (OPNAV Form 5100/9); forward a copy to both the Human Resources Department and the Safety Department. Return the original to the injured employee's supervisors via the employee.

b. Notify the Safety Department, Human Resources Department, and the immediate supervisor via telephone in the event the injured employee is to be hospitalized or sent home.

c. If, in the opinion of the examining Medical Officer, the injured is capable of performing limited duty, notify the employee's immediate supervisor, Safety Department, Human Resources Department, and Customer Service Desk.

5. Human Resources Department

a. In the event of a civilian death, make appropriate reports as required.

b. If the employee's department does not have limited duty assignments, locate and place the employee in an available light duty position until released for full, regular duties.

c. Process all injury compensation claims as appropriate.

603. PROPERTY DAMAGE MISHAPS

1. Employees. Will protect the scene and make an immediate report to their supervisor by the most direct means available.

2. Supervisors

a. Advise Department Head/Division Officers and respond to the scene. If serious (damage in excess of \$10,000.00), also advise the Safety Department.

b. Thoroughly investigate the mishap; compile witness statements.

c. Prepare a Supervisor's Report of Mishap (Property Damage), USNA DME-5100/08 (Figure 6-5), within 5 working days of the mishap and forward to the Safety Department via the chain of command.

d. Request assistance from the Safety Department as necessary.

3. Cost Center/Sub-Cost Center Heads

a. Ensure **completeness** of the Mishap Report and forward to the Safety Department **within 8 working days** of the mishap.

b. Ensure the Safety Department has been advised of serious damage.

c. Advise the Navy Police if accident scene protection is thought necessary.

d. Take appropriate corrective action.

4. Safety Department

a. Investigate to ensure appropriate corrective action is taken.

b. Handle proper distribution of information gained from the Mishap Report and report/record as required by OPNAVINST 5100.23D.

c. Use accident detail as appropriate in training.

5. Department of Defense Police will, if considered necessary, protect the accident scene until the investigative activities are completed.

604. SEMIANNUAL REPORT AND ANNUAL REPORT OF CIVILIAN OCCUPATIONAL INJURIES AND ILLNESS

1. The Safety Department maintains a database of all occupational injuries and illnesses. A spreadsheet report is provided to the Naval Safety Center every 6 months.

2. An annual report of occupational injuries and illnesses will be posted in conspicuous locations within 45 days after the close of each fiscal year.

605. MOTOR VEHICLE MISHAPS

1. Employee

a. Protect the mishap scene and advise the immediate supervisor and Navy Police.

b. Prepare Operator's Report of Motor Vehicle Accident (Standard Form 91).

2. Supervisor

a. Advise Cost Center/Sub-Cost Center Heads, NAVMEDCLINIC (if necessary), and respond to the scene.

b. Investigate the mishap.

3. Department Heads

a. Ensure that DOD is notified.

b. If a personal injury is involved (other than minor first aid), notify the Safety Department.

c. Take appropriate corrective action.

4. DOD Police

a. Protect the scene as necessary.

b. Investigate and report the accident in accordance with reference (a).

5. Safety Department

a. Investigate to ensure that corrective action has been taken. Make a report to the Navy Safety Center as appropriate.

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- b. Use mishap detail as appropriate for safety training activities.

606. EXPLOSIVE MISHAPS

1. Employee

- a. Stop the operation and protect the scene (if considered immediately dangerous, clear the area) whenever explosive loaded ordnance is inadvertently initiated or is dropped, damaged, mishandled, etc.

- b. Immediately notify proper authority, as time will allow; i.e., Fire Department, supervisors, etc.

2. Supervisor or Supervisor's Office

- a. Notify Cost Center/Sub-Cost Center Heads and the Safety Department. If danger is suspected, notify appropriate Explosive Ordnance Disposal Department, Navy Police, Fire Department, etc.

- b. Respond to scene and investigate.

3. Cost Center/Sub-Cost Center Heads

- a. Commence the investigation and assist the Safety Department in the preparation of the Explosive Mishap Report.

- b. Take appropriate corrective measures.

4. Safety Department

- a. Make certain that the Deputy for Operations is immediately notified of an explosive mishap.

- b. Respond to scene.

- c. Investigate and follow up to better ensure that appropriate corrective measures are taken.

- d. Prepare a report to the Navy Safety Center and Naval Sea System Command as appropriate.

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MILITARY/MIDSHIPMEN ACCIDENT REPORTING PROCEDURE (Q & A)

U.S. Naval Academy

Question: WHAT MUST BE REPORTED?

Answer: Injuries and fatalities that occur both ON DUTY AND OFF DUTY including sports and PT participation and when the member is on leave at another location.

Also, the following incidents must be reported even if no injury occurs:

- Man Overboard - All Cases
- Electric Shock
- Chemical or Toxic Overexposure
- Laser Mishaps
- Motor Vehicle Accidents
- Potentially Hazardous Near-Mishaps
- Mishaps resulting in Government Property Damage

Question: WHO INVESTIGATES AND REPORTS MISHAPS?

Answer: First-line supervisors /Company Officers (as appropriate) are responsible for the initial investigation and report of all injuries. On-the-job fatalities, mishaps with three or more persons injured in a single incident, and accidents resulting in property damage that may exceed \$200,000 must be investigated by the Safety Department or a Class A/B investigation team as appropriate. For assistance:

- 0730 - 1630: POC: Cathy Quigley X35666 or the front desk X35660
- After work hours: The Fire Dept. Dispatch or Naval Academy Duty Officer (NADO) will call the Safety Manager at home.
- For less serious mishaps after hours and weekends, the NADO must notify the Safety Department the following work day.

Question: WHEN MUST MISHAPS BE INVESTIGATED AND REPORTED?

Answer: Immediately. The longer you wait, the harder it is to obtain facts, observe evidence, etc. Fatalities or incidents resulting in three or more persons hospitalized must be reported to the Safety Department immediately.

- Reports must be made within 3 days of the mishap occurrence.

Question: WHAT FORM IS USED FOR REPORTING MISHAPS?

Answer: "Supervisor's Report of Mishap (Injury)" USNA DME 5100/7 (Rev. 9-95)

- All items must be filled in completely and the form must be signed.

Question: IS ANY ADDITIONAL ACTION REQUIRED?

Answer: Yes, corrective action is always required. If corrections cannot be made immediately, interim measures must be initiated.

- Even in cases of personal error, training can be conducted using the mishap as an example.

MISHAP REPORTING IS A MANDATORY SUPERVISOR RESPONSIBILITY

IF THERE ARE ANY QUESTIONS, PLEASE CONTACT CATHY QUIGLEY AT EXT. 35666

Figure 6-1

Enclosure (1)

FEB 1 2001

CIVILIAN ACCIDENT REPORTING PROCEDURE (Q & A)

U.S. Naval Academy

Question: WHAT MUST BE REPORTED?

Answer: All Injuries and fatalities that occur ON DUTY.

Also, the following incidents must be reported even if no injury occurs:

- Man Overboard - All Cases
- Electric Shock
- Chemical or Toxic Overexposure
- Laser Mishaps
- Motor Vehicle Accidents
- Potentially Hazardous Near-Mishaps
- Mishaps resulting in Government Property Damage

Question: WHO INVESTIGATES AND REPORTS MISHAPS?

Answer: First-line supervisors are responsible for the initial investigation and report of all injuries. On-the-job fatalities, mishaps with three or more persons injured in a single incident, and accidents resulting in property damage that may exceed \$200,000 must be investigated by the Safety Department or a Class A/B investigation team as appropriate. For assistance:

- 0730 - 1600: POC: Jon Wilkinson X35662, or the front desk X35660
- After work hours: The Fire Dept. Dispatch or Naval Academy Duty Officer will call the Safety Manager at home.
- For less serious mishaps after hours and weekends, the NADO must notify the Safety Department the following work day.

Question: WHEN MUST MISHAPS BE INVESTIGATED AND REPORTED?

Answer: Immediately. The longer you wait, the harder it is to obtain facts, observe evidence, etc. Fatalities or incidents resulting in three or more persons hospitalized must be reported to the Safety Department immediately.

- Reports must be made within 3 days of the mishap occurrence.

Question: WHAT FORM IS USED FOR REPORTING MISHAPS?

Answer:

- "Supervisor's Report of Mishap (Injury)" USNA DME 5100/7 (Rev. 9-95)
- Dispensary Permit, OPNAV 5100/9 (10/92)
- Appropriate Injury Compensation Forms must also be completed (CA-1/CA-2)
- All items must be filled in completely and the form must be signed.

Question: IS ANY ADDITIONAL ACTION REQUIRED?

Answer: Yes, corrective action is always required. If corrections cannot be made immediately, interim measures must be initiated.

- Even in cases of personal error, training can be conducted using the mishap as an example.

MISHAP REPORTING IS A MANDATORY SUPERVISOR RESPONSIBILITY

IF THERE ARE ANY QUESTIONS, PLEASE CONTACT JON WILKINSON AT EXT. 35662

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Dispensary Permit

CASE NUMBER

PRIVACY ACT STATEMENT BELOW

SUPERVISOR'S REPORT		TO DISPENSARY (Location)	DATE OF REPORT	
EMPLOYEE'S NAME		TIME & DATE OF INJURY	TIME LEFT JOB	TIME RETURNED
SOCIAL SECURITY NO.	GRADE, RATE, JOB TITLE		OCCUPATIONAL <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> QUESTIONABLE	
REASON FOR REFERRAL <input type="checkbox"/> INJURY <input type="checkbox"/> ILLNESS <input type="checkbox"/> EMPLOYEE'S REQUEST <input type="checkbox"/> OTHER (Specify)				
REMARKS				
SUPERVISOR'S SIGNATURE		SHOP/OFFICE	TELEPHONE NUMBER	
MEDICAL OFFICER'S REPORT		TIME REPORTED	TIME RELEASED	
OCCUPATIONAL <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> QUESTIONABLE		DEGREE OF INJURY <input type="checkbox"/> FIRST AID <input type="checkbox"/> MEDICAL TREATMENT <input type="checkbox"/> OTHER (Explain)		
DISPOSITION OF EMPLOYEE <input type="checkbox"/> RETURN TO PERM. JOB _____ <input type="checkbox"/> TEMP. TRANSFER TO ANOTHER JOB <input type="checkbox"/> TERMINATION OF EMPLOYMENT <input type="checkbox"/> RESTRICT ACTIVITY UNTIL _____ <input type="checkbox"/> PERM. TRANSFER TO ANOTHER JOB <input type="checkbox"/> SENT HOME BY DISPENSARY <input type="checkbox"/> REFERRED TO PRIVATE PHYSICIAN/HOSPITAL <input type="checkbox"/> OTHER (Explain)				
REMARKS/DIAGNOSIS				
MEDICAL OFFICER'S SIGNATURE		INITIAL TREATMENT DETERMINATION <input type="checkbox"/> DISCHARGED, TREATMENT COMPLETED <input type="checkbox"/> RE-TREATMENT REQUIRED		

OPNAV 5100/9 (Rev 10-92)

S/N 0107-LF-015-8300

PRIVACY ACT STATEMENT

Authority: SECNAVINST 5100.10E and OPNAVINST 5100.23C

Principal Purpose: To ensure prompt investigation of occupational injuries, and to initiate any necessary immediate corrective action.

Routine Use: Routinely used by the activity Occupational Safety and Health Office to perform official duties in the investigation of mishaps which may have caused occupational injury or illness.

Disclosure: Voluntary. Treatment will be provided without regard to employee's willingness to divulge all or part of the requested information.

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SUPERVISOR'S REPORT OF MISHAP (INJURY)

PRIVACY ACT STATEMENT

Authority: 5 USC 501: Executive Order 9397

Purpose: To provide identification of individuals for Supervisor's Mishap Reporting System.

Use: To complete information required for OPNAV 5100.23D OPNAV Safety Report Form.

Disclosure: Disclosure is required. Failure to provide the requested information will prevent adequate processing of Safety Report in a timely manner, thus affecting the overall rating of the Accident investigation Reporting system within the Safety Program of the Naval Academy/Naval Station.

Social Security Number: Disclosure is not required; however, failure to do so may result in confusion of your personal data with that of someone with the same or similar name.

A PRIORITY REPORT
 Complete and send to the appropriate Safety Department
 USNA Stop 18b OR NAVSTA Stop 23
 within 3 days of mishap.
RETURN ORIGINAL - DO NOT RETAIN COPIES

NAME (Last/First/MI): _____ RANK/RATE or JOB TITLE: _____ PAY GRADE: _____

SSN: _____ DEPT/SHOP/COMPANY or CLASS: _____ SEX: _____ DOB: _____

Date of Mishap: _____ Time of Mishap: _____ On Duty Off Duty

Years experience in activity performed at time of mishap: _____

Days on Restricted/Light Duty: _____ Actual: _____ Estimated: _____

Days Away From Work/Class/Days In Hospital: _____ Actual: _____

Days Hospitalized Only: _____ Actual: _____ Fatality: _____

Describe Injury/Illness (BE SPECIFIC - what part of body affected, etc.):

Location of Mishap: _____ Work/Job Order #: _____

Describe Job/Task/Activity Assigned To: _____ Months of Experience at Assigned Job/Task/Activity: _____

Describe SPECIFIC PART of job/task/activity performed when injury occurred:

What Personal Protective Equipment (PPE) is required for that job/task/activity?:

Was injured person wearing PPE? YES NO
 Was injured person trained/instructed how to perform this specific job/task/activity? YES NO
 Can training/instruction be documented? YES NO
 Was training/instruction relative to mishap? YES NO
 Did you inspect the mishap site? YES NO

BASIC CAUSE of mishap was Unsafe Act (personal error) or Unsafe Conditions or
 Sports Participation (Midn/Military) or Act of God.

CONTRIBUTING (secondary) CAUSE (check one or more as applicable):

<input type="checkbox"/> fatigue	<input type="checkbox"/> distraction/inattention	<input type="checkbox"/> haste	<input type="checkbox"/> inadequate work space
<input type="checkbox"/> habit	<input type="checkbox"/> lack of training/instruction	<input type="checkbox"/> over confident	<input type="checkbox"/> inadequate/improper tool/equipment
<input type="checkbox"/> other (explain)	<input type="checkbox"/> attitude/behavior	<input type="checkbox"/> excessive motivation	

SPECIFIC CAUSE of Mishap (check one or more as applicable):

<input type="checkbox"/> repetitive motion	<input type="checkbox"/> unsafe practices	<input type="checkbox"/> did not recognize hazard
<input type="checkbox"/> horse play	<input type="checkbox"/> not authorized to use tool/equipment	<input type="checkbox"/> equipment malfunction
<input type="checkbox"/> improper tool/equipment uses	<input type="checkbox"/> assuming unsafe posture	<input type="checkbox"/> controls incorrectly operated
<input type="checkbox"/> weather	<input type="checkbox"/> working without safety guard	<input type="checkbox"/> lack of maintenance
<input type="checkbox"/> slippery/uneven walking surface	<input type="checkbox"/> repairing equipment while energized	<input type="checkbox"/> PPE not used
<input type="checkbox"/> housekeeping	<input type="checkbox"/> failure to use caution for known risk	<input type="checkbox"/> electrical shock
<input type="checkbox"/> other (explain)		

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SUPERVISOR'S REPORT OF MISHAP (PROPERTY DAMAGE)

May be completed by hand.
 Route completed form through second line supervisor.
 Should reach the Safety Department within 5 working days after mishap.

1. Type of property damage (flooding, fire, structural failure, etc.)
2. Time and date of mishap _____
3. Location where mishap occurred (building, field, road, etc.)
4. What activity was in progress at the time?
5. Equipment damaged or destroyed by the mishap (Described damage.)
6. Estimated cost to repair or replace DOD property. (Provide a total cost including man-hours at \$16.00 per hours plus cost of material and equipment.)
7. Estimated cost of non-DOD property damage.
8. If personal injuries occurred as a result of this mishap, submit a Supervisor's Report of Mishap (Injury) for each person injured.
9. Cause Factors. In order to prevent future similar mishaps, it is necessary to discover the causes of a mishap. When unsafe actions by an employee or by a coworker, or inadequate supervision or planning by supervisor are considered a cause, please complete the chart below by checking appropriate boxes.
 - a. Cause of Mishap (check one)

Personnel Error	<input type="checkbox"/>	Material Failure	<input type="checkbox"/>
Unsafe Condition	<input type="checkbox"/>	Improper Design	<input type="checkbox"/>
Improper Procedures	<input type="checkbox"/>	Environmental Conditions	<input type="checkbox"/>

USNA-DME-5100/08 (Rev. 03-96)

Complete Items b through d (Only if Personnel Error is involved)			
	Employee	Supervisor	Coworker
b. Who caused mishap? (check 1 or more)			
c. What did he/she fail to do?			
Operate controls correctly			
Perform proper maintenance/PMS			
Recognize hazardous situation			
Use proper caution for known risk			
Use proper tool/equipment			
Plan adequately			
Match task to person's ability			
Coordinate tasks			
Supervise progress of work			
Use protective equipment			
Task corrective action (if time available)			
Other (explain)			
d. Why did he/she fail to do it?			
Not convenient/comfortable			
Distracted/Inattentive			
Haste			
Habit			
Overconfidence			
Inadequate knowledge of people/equipment			
Insufficient experience/skill/training			
Inadequate work space			
Restricted vision			
Disrupted communications			
Inadequate/unavailable tools/equipment			
Other (explain)			
_____ Signature - First Line Supervisor		_____ Signature - Second Line Supervisor	
_____ Date	_____ Extension	_____ Date	_____ Extension

Figure 6-5

CHAPTER 7

OCCUPATIONAL SAFETY STANDARDS701. GENERAL OCCUPATIONAL SAFETY

1. Introduction. This part of the manual is devoted to hazards and preventative measures common to industrial operations and equipment. In order to maintain a high standard of **safety**, there must be a continuous review and constant application of all safety regulations. Since every precaution cannot be covered in these general instructions nor in the specific safety regulations covered in other paragraphs in this manual, it is imperative that readily available references be continually consulted.

2. Every effort must also be made in carrying out these precautions to grasp not only their intent but the ideas on which they are based. Then if a situation does arise that is not covered, the proper action will most likely be taken.

3. Supervisors and Employees. Both have direct responsibility for the safety of the operations they are conducting and for daily inspection of the facilities and equipment before beginning operations.

4. Training. A thorough indoctrination of all personnel by their supervisors regarding safety, fire, special instructions pertaining to the job, and any hazards are mandatory before assigned work proceeds.

5. General

a. Any operation which appears to be abnormal or unusual in any way will be stopped by the supervisor in charge or by the Safety Department until an accurate determination of conditions can be made. The Safety Department inspector may stop an operation if imminent danger to employees exists and will notify the Safety Manager immediately of action taken.

b. Where there is doubt as to the exact meaning of any safety requirement or conflict between instructions, operations will stop for an interpretation or decision from proper authority; i.e., Industrial Hygienist, Naval Safety Center, etc.

c. Good housekeeping will be maintained. Orderly and safe stacking of material is essential.

d. Electrical equipment, appliances, machines, and fixtures will be grounded in accordance with the National Electric Code.

e. Safety devices must not be bypassed nor made inoperative.

f. The use of compressed air for cleaning purposes will be done only with an air nozzle that meets OSHA standards (30 PSIG at nozzle end).

g. Personal protective equipment for hazardous operations will be specified and used.

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- h. Machinery and equipment will be operated only by authorized personnel.
- i. Personnel will not perform unauthorized maintenance.
- j. Defective tools or equipment will not be used. They must be immediately removed from service.
- k. Forklifts and other types of material handling equipment will be operated by authorized personnel only. Forklifts and crane operators must have currently valid identification cards (SF-46) and physicals.
- l. All employees will know the location of fire extinguishers and fire alarm boxes in the vicinity of their work areas. Each individual will be thoroughly instructed in procedures to be followed for fire and other emergencies.

702. PERSONAL PROTECTIVE EQUIPMENT (PPE) (GENERAL). Engineering controls are the primary methods used to eliminate or minimize hazard exposure in the work place. At times when such controls are not practical or applicable, PPE will be employed to reduce or eliminate personnel exposure to hazards; however, PPE is not a desirable substitute for administrative or engineering controls. It must be recognized that PPE does nothing to reduce or eliminate the hazard itself. It merely establishes a "last line of defense" and any equipment breakdown, failure, or misuse immediately exposes the worker to the hazard.

1. Function. To protect personnel when recognized hazards cannot be eliminated by engineering changes, revision of manufacturing or processing methods, a change in materials or material handling methods or physically guarding at the source of danger.

2. Administration

a. Safety Department

- (1) In coordination with the Industrial Hygienist, conduct a periodic PPE Survey for all departments/shops.
- (2) Review requisitions for safety equipment purchases to ensure compliance with applicable standards and specifications.
- (3) Purchase supplies of items for individual issue to supplement departmental purchases of PPE.
- (4) Conduct and maintain an assessment of workplace hazards requiring the use of PPE.
- (5) Incorporate PPE training Command-wide and at the work center level.

b. Supply Department. Ensure that all orders for PPE are approved by the Safety Department.

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c. NAVMEDCLINIC. Provide eye examinations and reflective services for safety eye wear for those employees working in eye hazardous areas.

d. Cost Center/Sub-Cost Center Heads. Consult with the Safety Department concerning requirements for PPE.

(1) Procure and stock for issue to using departments those approved expendable PPE in regular demand.

(2) Purchase protective equipment for work centers that is not normally funded by the Safety Department.

3. The PPE requirements for each work unit and operation will be provided to supervisors based on an evaluation by the Safety and Industrial Hygiene Departments.

4. Paragraphs 703-708 in this manual describe the various PPE programs and requirements in more detail.

703. FOOT PROTECTION

1. All personnel engaged in toe-hazardous work are required to wear safety shoes that meet ANSI 241 PT 91 Impact 75 for impact resistance.

2. Toe-hazardous work is defined as work in construction, materials handling, maintenance, transportation, equipment repair operations, mechanical shops, and other areas shown by experience to be similarly hazardous.

3. All personnel, while actually engaged in electrical work, including testing, will wear nonconductive (electrical hazard) shoes or be insulated from ground by other means, such as nonconductive matting.

4. Appropriated Fund employees are eligible for reimbursement for the purchase/replacement of safety shoes.

704. HEAD PROTECTION

1. Approved safety helmets will be worn by all personnel involved in the following areas and operations:

a. On or around cranes or any other weight-handling equipment while in operation.

b. All service craft repair and overhaul operations where overhead hazards exist.

c. On or around materials handling equipment, such as forklifts, when operating or under a load.

d. When using heavy tools such as pick axes or sledge hammers.

e. On or around heavy construction equipment.

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f. In storage buildings or warehousing areas where materials are stored 10 foot or higher overhead.

g. Any location where there is a danger of being struck and injured by falling objects higher than the head.

h. Personnel working in deep ditches or excavations.

i. Personnel operating construction equipment (heavy).

2. Hardhats may also be worn as head protection against chemical splashes. Protective helmets must be of the approved type of impact and chemical splash protection IAW ANSI Z89.1.

3. Hardhats worn by personnel exposed to electrical shock hazards will be dielectric and specifically approved for electrical hazards.

705. HAND PROTECTION

1. Appropriate hand protection will be provided to all personnel working in operations involving:

a. Hot materials, acids, caustics, or other chemicals hazardous to the skin.

b. Live electrical circuits.

c. Contaminants (such as that related to plumbing/sewer operations).

d. Abrasive blasting.

2. Welding operators should at all times wear flameproof gauntlet type gloves.

3. Latex or neoprene coated gloves should be worn when handling mild commercial acids, caustics, salt solutions, but should not be worn for handling highly toxic chemicals.

4. Gloves designed for the specific task will be worn by personnel when handling highly toxic chemicals, acids, and caustics.

5. Leather gloves or cotton gloves with leather palms will be worn when handling rough, sharp, and irregular objects.

706. HEARING PROTECTION and the Hearing Conservation Program are described in detail in paragraph 402.2. of this instruction.

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707. RESPIRATORY PROTECTION PROGRAM

1. Policy. The requirements for an acceptable respiratory protection program are defined in the Code of Federal Regulations 29 CFR 1910.134. In order to comply with these provisions, the departments will ensure that engineering and/or administrative controls have been instituted to the most feasible extent before sanctioning the use of respirators to control airborne contaminants. Department Head/Division Officers, through their first-line supervisors, must ensure that employees comply with the requirements of this manual.

2. Definitions

a. Hazardous and oxygen-deficient atmospheres

(1) Hazardous atmosphere - Any atmosphere containing a toxic or disease-producing gas, vapor, dust, fume, mist, or pesticide immediately or not immediately dangerous to life or health.

(2) Oxygen-deficient atmosphere - Oxygen concentration less than 19.5 percent by volume at sea level.

b. Immediately dangerous to life or health - Conditions that pose an immediate threat to life or health or conditions that pose an immediate threat or serve exposure to contaminants which are likely to have adverse cumulative effects on health.

c. Not immediately dangerous to life or health - Any hazardous atmosphere which may produce physical discomfort immediately, chronic poisoning after repeated exposure, or acute adverse physiological effects after prolonged exposure.

3. Respiratory Protection Program Manager

a. Coordinate and approve the ordering of cartridges, spare parts, and necessary equipment for cleaning and sanitizing respiratory equipment to meet their needs. The Safety Department will establish written Standard Operating Procedures (SOP) for selection, use, and maintenance where the guidance established does not address specific circumstances.

b. Issue all respirators from one or more central locations (central tool room) or the individual as appropriate. The issuing point attendant will establish a program for maintenance and care of respirators which will include the following basic services.

- (1) Inspect for defects (including a leak check).
- (2) Cleaning and disinfecting.
- (3) Repair.
- (4) Storage.

c. Perform approved fit testing and assign respirators on an individual basis whenever practicable. Stored respirators will have a marking or label to identify the person to whom the respirator is assigned. Any marking should not interfere with the performance of the respirator in any way.

d. Ensure that respiratory equipment is properly maintained to retain its original effectiveness. Repairs or replacement of parts will be done only by trained, experienced persons with parts designed for each type of respirator.

e. Ensure that a worksite-specific respirator SOP is conspicuously posted at each place where respiratory protection is issued or routinely required to be used.

4. Supervisors

a. Ensure that all personnel involved in operations requiring the use of respiratory protection are furnished with the proper equipment and are trained in the proper care and use of equipment.

b. Do not **assign** employees to tasks requiring use of respirators unless it has been determined by the NAVMEDCLINIC that they are physically able to perform the work and use the equipment. The lower portion of Respirator Training and Fit Test Record (USNA KTH 5100/36) (Figure 7-1) can be used for this purpose when the employee has not previously been entered into the program based on the most recent Industrial Hygiene survey.

5. Training

a. Training will include:

(1) Discussion of the contaminants to be encountered, its expected concentration, and its chemical, physical, and toxicological properties.

(2) Explanation of reasons for using respirators and the attempt to eliminate the need for them.

(3) Description and discussion of respirators and their limitations.

(4) Recommendation of proper respiratory protection for the particular operation.

(5) Instructions on checking fit and normal operating conditions.

(6) Elements of the Respiratory Protection Program.

b. A record will be made of training given. The record will include the date training was given and the names of the employees receiving the training, respirators assigned, and the fit-test method used.

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c. The Safety Department will conduct/assist in training as required.

6. Enforcement

a. It is the responsibility of the immediate supervisor to ensure compliance of the chapter. Respirators will be worn as directed in instances where they have been prescribed. Failure to adhere to these provisions will result in administrative action by the appropriate supervisor.

b. The Safety Department will monitor operations relative to respiratory protection to ensure compliance with this chapter. An annual audit of the program will be performed by the Safety Department and Industrial Hygienist.

7. Respiratory Protection SOP (General)

a. Training

(1) Only persons trained, fit-tested, and physically able may be required to wear a respirator. Supervisors of such persons will receive the same training.

(2) Only properly trained personnel are authorized to make repairs to respirators.

b. Storage

(1) Respirators will be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals. (i.e., in plastic bags.)

(2) Respirators will not be stored in such places as tool boxes or stacked in lockers unless they are in carrying cases or cartons.

c. Maintenance

(1) Respirators issued on a daily basis will be washed, sanitized, inspected, repaired, and any associated filters discarded upon turn-in.

(2) Respirators issued to individuals on a continuing basis will be washed and inspected by the individual. Cartridges will be replaced as described in the work center respiratory protection operating procedures. Respirators must be turned in for repairs.

d. Respirator Limitations

(1) Cartridge-type respirator

(a) Cannot be used in oxygen-deficient atmosphere.

(b) Cannot be used where toxic concentrations exceed the filter manufacturer's limitations.

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(c) Cannot be used where failure of the respirator would result in the user being overcome.

(d) Cannot be used for protection against hazardous atmospheres for which it was not designed.

(2) Airline respirators will not be used in atmospheres immediately dangerous to life or health. Only self-contained breathing apparatus can be used and then only with the approval and direction of the Safety Manager.

e. Further guidance on respiratory protection may be found in specific shop-level operating procedures.

708. FACE AND EYE PROTECTION

1. Safety Glasses. Approved safety eyewear will be worn by personnel exposed to conditions which might cause eye injuries such as impact, dust, bright flames, electric welding, splashes (acids and caustics), operating gang or slope mowers, and when using compressed air for cleaning.

a. The eye protection worn will be specifically approved for the hazard involved.

b. Safety glasses of spectacle type should be equipped with side shields.

c. The frames of safety eyewear must be made of noncombustible material, slow-burning or self-extinguishing plastics, or metals.

d. All eye protective devices will be kept clean and well maintained by the personnel requiring it. It will not be issued to another person until it has been thoroughly cleaned and sanitized.

2. Face Shields. Approved plastic face shields will be worn by personnel exposed to flying sparks, shavings, banding operations, or other light fragments and hazardous splashing liquids. They will also be worn during operations where there is a hazard from molten or very hot materials. In operations where hard hats are required, the combination, hard hat/face shields, will be used. Face shields alone provide minimal protection for the eyes. Safety spectacles or goggles shall be worn under the face shields during an eye hazardous operation.

3. Contact Lenses. Contact lenses will not be worn in work areas that contain corrosive dusts, corrosive liquids, or where exposure to exposed explosives can be expected.

4. The Sight Conservation Program is described in detail in paragraph 402.3. of this instruction.

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709. GENERAL HOUSEKEEPING

1. An effective occupational safety program begins with general housekeeping which contributes greatly toward minimizing fire hazards and personnel hazards.
2. Flammable materials will be properly stored.
3. Aisles and passageways will be kept unobstructed and in good condition.
4. Trash and debris will be properly disposed of.
5. Stairs will be equipped with proper treads, handrails, and illumination.
6. All waste materials from metal working and wood working operations shall be cleaned up daily.
7. All spills must be cleaned up immediately.

710. MATERIALS HANDLING

1. Accident Causes. The largest percentage of accidents suffered by employees results from accidents occurring during materials-handling operations. Mechanical handling causes fewer work injuries; but in most cases, they are of greater severity. Careful space planning, proper selection of equipment, and adequate training of employees will reduce the number of injuries due to handling of material.

2. Personal Protection

a. Shoes. All personnel engaged in materials-handling operations will wear safety shoes. Sandals and other types of open-toed shoes or shoes with thin soles will not be worn.

b. Gloves. Gloves will be worn by all employees carrying, lifting, or moving sharp or bulky objects that have sharp edges or projecting points.

c. Other Personal Protection. Requirements for other PPE equipment for specific materials-handling operations are specified in annual Industrial Hygiene Surveys and shop specific PPE guidelines provided by the Safety Department.

3. Manual/Automated Materials Handling

a. Lifting. All personnel engaged in handling material of any type will be instructed by their supervisors and will carefully follow the proper method of lifting heavy objects.

(1) The lifter should stand close to the load with feet solidly placed and slightly apart.

(2) Mechanical materials-handling equipment will not be used to lift personnel above the floor level except where special "personnel pallets" with guard rails on four sides are used and where such a configuration is approved by the equipment manufacturer.

(3) During actual raising and lowering operations, personnel in the special "personnel pallet" will face away from the hoisting mast and stay clear of the hoisting mechanism.

(4) Personnel will never be transported in an elevated position.

(5) "Personnel pallets" will be firmly secured to the lifting carriage and/or forks.

(6) Means will be provided whereby personnel on the "personnel pallet" can shut off power to the truck.

711. MOTOR VEHICLES

1. Operator's Qualifications and Requirements

a. Responsibility. The operator of a Navy motor vehicle will not be permitted to drive a government vehicle exceeding 14,000 pounds gross vehicle weight or carrying over 10 passengers until such person has been examined and issued the appropriate license for this class of vehicle.

(1) No operator whose alertness is impaired by fatigue, illness, alcohol, drugs, or who is otherwise unfit will drive a government vehicle.

(2) Navy motor vehicle licenses are issued and controlled by the Security Department, USNA.

2. Seat Belts. Seat belts will be worn by all operators and passengers in government and privately owned vehicles on board the activity and when traveling on official business.

712. CRANES

1. Hazards

a. Personnel

(1) About 80 percent of all accidents involving cranes and other weight-handling equipment are caused by unsafe practices of operation, maintenance, and other personnel involved in the operation of the equipment. It is possible for these personnel to perform their tasks on or about the equipment in an UNSAFE MANNER many times over a long period of time without an accident.

(2) Eventually such employees become convinced that their unsafe practices actually are safe. Inevitably, their continued violation of the safety rules results in accidents. The body of safety rules in this field has been developed through the investigation and analysis of thousands of accidents. FULL COMPLIANCE WITH SAFETY RULES IS ESSENTIAL.

b. Unsafe Practices. The predominant unsafe practices and hazardous conditions in the operation of cranes are listed below.

(1) Backing and turning machines, swinging booms, lowering buckets, and performing similar operations without looking, warning, or signaling.

(2) Getting on and off equipment carelessly while it is in operation or riding equipment when not authorized to do so.

(3) Operating equipment with defective breaks, clutches, cables, or other improperly functioning parts.

(4) Working or walking under loads.

(5) Failing to adjust controls properly before starting an engine.

(6) Oiling, adjusting, or repairing equipment while it is in operation.

(7) Using equipment with inadequately guarded, dangerous moving parts.

(8) Failing to properly block equipment or heavy parts while repairing equipment.

(9) Operating equipment in a thoughtless or unsafe manner such as moving too fast.

(10) Operating close to power lines.

(11) Failing to secure equipment, breaks, booms, etc., before repairing, leaving, or moving the machine.

(12) Poor housekeeping.

(13) Overloading equipment.

2. Qualifications of Operators and Signalmen

a. Operators

(1) All crane operators will be tested and licensed in accordance with the applicable requirements of NAVFAC P-307 (Testing and Licensing of Construction Equipment Operators) and manufacturer's specifications.

(2) All crane operators are required to have an annual physical.

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b. Signalmen

(1) Only one person will be designated as a signalman at each lift station, and both the signalman and the operator will be entirely familiar with the Standard Hand Signals.

(2) The signalman must be in a position to closely observe the load and other workmen at all times.

(3) The signalman will be in plain sight of the crane operator at all times.

713. METAL WORKING - MACHINE SHOP

1. Scope. The safe practices described herein are applicable to all types of power-driven tools and should be used by all machine operators to avoid accidents involving themselves and other personnel. If there is any doubt about any safety procedures, the supervisor will be consulted.

2. Housekeeping. Areas around machines will be kept clear of obstructions and in a nonslippery condition. Specific housekeeping instructions are in the Code of Federal Regulations for General Industry.

3. Protective Clothing

a. Loose flowing or torn clothing, gloves, neckties, long sleeves, and rings or bracelets will not be worn around machinery. Snug fitting clothing will be worn. All clothing will be laundered frequently. Employees will not be permitted to wear oil soaked garments.

b. Approved goggles or face shields will be worn when grinding or when there is danger of flying particles.

c. Gloves are not to be worn around rotating machinery unless sharp or rough materials are being handled and only then upon approval of the supervisor.

d. If clothing becomes caught in a machine, the power will be cut off immediately.

4. Machine Guards

a. All guards on saws, drill presses, and machines are to be properly adjusted and in working order before starting the machine.

b. All gear and belt guards must be in place before the machine is operated.

c. Machine guards must be kept in position at all times unless removal is authorized for repairs or cleaning.

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5. Preliminary Precautions

a. No employee will be permitted to operate a machine with which they are not familiar.

b. No employee will start any machine unless they are absolutely sure of its operations and that all is clear.

c. No bandsaw or saw of any type will be started without first determining that the blade is in good condition and operating freely.

6. Preparing Machinery

a. All needed repairs will be reported to the supervisor in charge. Repairs, unless otherwise authorized by the supervisor, will be made only by a qualified repair mechanic or an approved manufacturer's representative.

b. Machinery will not be repaired, oiled, or cleaned while it is in motion unless so-designed.

c. The power will be shut off and locked out if required during repairs or adjustments.

d. Switches and valves, movement of which will endanger personnel working on lines and machinery, will be locked by the individual(s) performing repairs before starting work thereon.

e. Ram and cut switches will be blocked on power hammers, punches, and presses when it becomes necessary to place any part of a person's body underneath them.

f. Machine guards must be replaced after repairs, oiling, or other work.

7. Operating Precautions

a. No operator will attempt to adjust a tool, feel a cutting edge, or move a belt, while the machine is in motion.

b. Never apply a wrench to revolving parts or work.

c. Moving machinery will never be left unattended.

8. Special Machinery. Special precautions for lathes, milling machines, shapers and planners, drill presses, boring mills, saws, sheetmetal work, buffers and abrasive grinding wheels, power (punch) presses, foundries, forges, etc., are covered in the Code of Federal Regulations for General Industry.

714. WOODWORKING

1. Hazards. The hazards involved with woodworking include fire, injury, and health unless proper safety precautions and standards are enforced.

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2. Preventive Measures. Preventing these hazards requires that:

a. Only authorized, experienced personnel be permitted to operate wood-working machinery (circular saws, bandsaws, shapers, joiners, sanders, lathes tenoning machines, etc.).

b. Appropriate guards are installed and their use explained and enforced.

c. Adequate lighting is provided.

d. Tools and machines are not in disrepair.

e. Electrical equipment is properly grounded.

f. Safety equipment is issued and properly used (including hearing protection devices).

g. Radial saws are properly labeled to denote the safe direction in which work should be placed against the saw blade.

h. Dust removal (ventilation and exhaust systems) is sufficient.

i. Fire extinguishing devices are within easy access.

3. Specific Standards and Precautions. The safety precautions and standards contained in the Code of Federal Regulations for General Industry will be observed for all woodworking operations.

715. PAINTING, SPRAYING, COATING

1. Scope. Unless proper preventive measures are taken, operations involving the use of paints, varnishes, lacquers, cleaners, solvents, plastic coatings, and other finishing materials readily ignitable at relatively low temperatures cause fire and health hazards.

2. Hazards

a. Many of these materials are volatile and, when exposed to evaporation, form vapors which are not removed by adequate ventilation, may produce explosive and/or toxic mixtures in the air.

b. Certain paints and organic solvents irritate or burn the skin and must be handled with proper hand protection.

3. Precautions and Standards. The precautions and standards for painting, spraying, and coating are set forth in the Code of Federal Regulations for General Industry. Included are specifications for ventilation, medical examinations, respirators, gloves, smoking, etc.

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716. WELDING AND CUTTING

1. Hazards. The hazards involved with welding and cutting is fire, explosive toxic vapors, electrical shock, eye injury, and body burns.

2. Preventive Measures. Preventive measures include:

a. Adequate ventilation. (e.g. local exhaust)

b. Ensuring qualified operators only.

c. Providing protective clothing and equipment to operators.

d. Providing adequate ventilation and protective equipment to protect personnel in other operations when welding or cutting is performed in close proximity.

3. Supervision. Supervisors will make frequent inspections to assure that all standards and precautions are enforced.

4. Specific Precautions and Standards. All welding and cutting operations will be conducted in accordance with the safety precautions and standards in the Code of Federal Regulations for General Industry.

717. PIPING AND PLUMBING

1. Hazards. Hazards related to piping and plumbing includes exposure of personnel to acids, molten metal, toxic and/or flammable gases, atmospheres with oxygen deficiencies, heavy materials, asbestos insulation, fire-operated torches and furnaces, pressurized vessels and boilers, sewage or other filth, and inadequately lighted areas.

2. Preventive Measures. Accident prevention measures for piping and plumbing operations are many and diverse.

a. Personnel must be provided protective clothing and goggles whenever doing plumbing work involving handling of hot metal or acid, the use of blowtorches or welding torches, and wherever flying objects could injure the eyes.

b. When storing pipe for future use, proper methods of stacking will be applied to prevent rolling.

c. Piping systems will be inspected periodically to ascertain that leaks are not present, valves are in proper working order, corrosion has not occurred, drains are clear, and the piping is identified by color code as prescribed in MIL-STD-101.

718. CONSTRUCTION WORK

1. Scope. For purposes of this instruction, "construction work" includes construction, erection, excavation, alteration, and/or repair or demolition of buildings, mezzanines, piers, roads, etc.

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2. Hazards. Construction work involves the use of a wide variety of tools, heavy mechanical equipment, building materials, protective clothing, electrical equipment, work structures (scaffolds, ladders, stands), and rigging implements (ropes, lines, cable). Construction workers, therefore, are exposed to a great many potential hazards, including those which vary in degree depending on weather conditions.

3. Preventive Measures. The strict enforcement of efficient, effective accident and fire prevention measures in the form of appropriate safety precautions and standards are required.

4. Specific Standards and Precautions

a. Specific standards and precautions involved in construction work are set forth in the Code of Federal Regulations for Construction.

b. These Safety Standards are applicable not only to all civil service construction employees but also to all contractors and subcontractor personnel who are engaged to perform construction work on government property.

719. ELECTRICAL/ELECTRONIC WORK

1. Hazards. The primary injury hazards associated with electrical/electronic work are electrical shock and burns. It is of utmost importance that personnel employed to perform electrical/electronic work be thoroughly experienced in their specialty as well as fully informed of the hazards involved.

2. Preventive Measures

a. Employees will be provided special clothing and/or equipment that is necessary to do their jobs safely. Such equipment includes

(1) Rubber gloves, blankets, and sleeves which will be tested at prescribed intervals.

(2) Protective nonconductive hard hats for protection against accidental head contacts with electrical circuits.

(3) Insulating floor coverings at work locations to prevent accidental grounding.

b. First aid will be immediately available whenever work is performed on live circuits, including personnel who are trained in artificial respiration and cardiopulmonary resuscitation.

c. Electrical appliances and equipment will be inspected periodically for adequacy and functioning of safety features, damaged insulation, loose connections, and appropriate grounding in accordance with electrical inspection requirements.

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(1) Each flexible cord set, attachment cap, plug and receptacle, and tools, except those which are fixed and not exposed to damage, will be visually inspected before each day's use for external defects; such as, deformed or missing pins, insulation damage, and indication of possible internal damage. Equipment found damaged or defective will not be used until repaired.

(a) All equipment-grounding conductors will be tested for continuity and will be electrically continuous.

(b) Each receptacle and attachment cap or plug will be tested for corrected attachment of the equipment-grounding conductor. The equipment-grounding conductor will be connected to its proper terminal.

(3) Inspections will be performed:

(a) Before first use.

(b) Before equipment is returned to service following any repairs.

(c) Before equipment is used after any incident which can be reasonably suspected to have caused damaged (for example, when a cord set is run over).

(4) The work center will not make available or permit the use by employees of any equipment which has not met the requirements of this procedure.

(5) Tests performed as required in this paragraph will be recorded on a tag attached to the cord or equipment. This test record will identify each receptacle, cord set, and cord-and plug-connected equipment that passed the test and will indicate the last date it was tested or the interval for which it was tested.

d. Precautionary measures for handling wet-cell batteries and electrolytes will be observed, and personnel working in areas where high density radio frequency fields may exist (such as certain radar systems) will observe all required safety precautions.

e. Clothing

(1) Personnel will wear no loose or flopping clothing.

(2) Personnel will remove rings, wrist watches, bracelets, and other similar metal items before working on or within four feet of electrical equipment with exposed current carrying parts.

(3) When performing work on or within 4 feet of exposed electrical equipment, clothing with exposed zippers, buttons, or other metal fasteners will not be worn.

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f. Electrical Equipment Inspection Requirements

(1) Each flexible cord set, attachment cap, plug and receptacle, and tools, except those which are fixed and not exposed to damage or those used in administrative areas, will be visually inspected before each day's use for external defects; such as, deformed or missing pins, insulation damage, and indication of possible internal damage. Equipment found damaged or defective will not be used until repaired.

(2) The following tests will be performed on cords and portable equipment required to be grounded.

(a) All equipment-grounding conductors will be tested for continuity and will be electrically continuous.

(b) Each receptacle and attachment cap or plug will be tested for correct attachment of the equipment-grounding conductor. The equipment-grounding conductor will be connected to its proper terminal.

(3) All required tests will be performed:

(a) Before first use.

(b) Before equipment is returned to service following any repairs.

(c) Before equipment is used after any incident which can be reasonably suspected to have caused damage (for example, when a cord set is run over).

(d) At intervals not to exceed 3 months, with the exception of cord sets and receptacles which are fixed and not exposed to damage.

(4) The work center will not make available or permit the use by employees of any equipment which has not met the requirements of this procedure.

(5) Tests performed as required in this paragraph will be recorded on a tag attached to the cord or equipment. This test record will identify each receptacle, cord set, and cord-and plug-connected equipment that passed the test and will indicate the last date it was tested or the interval for which it was tested.

720. GENERAL OFFICE SAFETY

1. Ceiling Fixtures. Fixtures attached to ceilings will be kept securely fastened. Personnel will, at no time, work directly underneath fixtures which are being repaired or replaced. Florescent tube fixtures will be protected from damage by means of louvers, hinged covers, ceiling troughs, clips, or the equivalent. Tubes of the twist-in type exceeding 40 inches in length will be provided with supplementary supporting brackets or other means of preventing a dropout because of vibration.

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2. Scissors. Care will be taken to see that sharp-pointed scissors are kept in a secure position at all times.

3. Filing Cabinets. Overbalancing from various causes is the primary hazard in connection with the use of filing cabinets. The following precautions against overbalancing and other hazards should be taken.

a. Securing to Floor or Wall. The following precautions should be taken where feasible. Individual, upright filing cabinets should be secured to prevent overbalancing. Where there are two or more, they should be fastened to each other. When steel filing cabinets are aligned in rows, back-to-back, it has been found that a 1-1/2 inch angle iron fastened to the floor in front of each row will not only keep the cabinets in line but will prevent them from falling forward when drawers are extended.

b. Alignment. Cabinets with projecting locking devices should not be taken where feasible. Individual upright filing cabinets should be secured to prevent overbalancing. Where there are two or more, they should be fastened to each other. When steel filing cabinets are aligned in row, back to back, it has been found that a 1-1/2 inch angle iron fastened to the floor in front of each row will not only keep the cabinets in line but will prevent them from falling forward when drawers are extended.

c. Open Drawers. Never leave a file cabinet drawer open when it is not being used. Do not have more than one drawer of a file open at one time, since cabinets easily overbalance. Use handle for opening and closing file cabinet drawers.

d. Sharp Edges. Sharp burrs on metal filing cabinet edges cause injury to hands and other parts of the body as well as damage to clothing. Burrs should be removed before cabinets are used.

4. Desks

a. Typewriter Desks. The handle should always be used when closing disappearing typewriter compartments. Because of the weight of the typewriter, this section of the desk closes rather rapidly and may cause injury to fingers or hands.

b. Sharp Objects. Points of pencils, pens, and other sharp objects should always be laid on the desk with the point away from the person sitting at the desk. When possible, containers will be provided in which to keep sharp objects when not in use. Razor blades will have the cutting edge covered when kept in a desk drawer.

c. Glass Tops. Broken glass tops should be disposed of promptly and the desk should not be used until the broken top has been removed. Desk tops made of acrylic plastic or safety glass are strongly recommended in lieu of regular glass.

d. Protruding Equipment. Pencil sharpeners and other equipment should not protrude from the tops of desks or other furniture.

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e. Open Drawers. Desk drawers should never be left open, since a person can inadvertently strike or stumble over them and suffer serious injury.

5. Computers

a. Cables must be kept out of walkways.

b. Monitors should be positioned in a manner that allows for comfortable positioning of the operators.

c. The monitor should be between 18-20 inches from the operator and at eye level.

d. Glare screens may be used to prevent eye strain.

e. The keyboard and mouse should be positioned so that the operator's hands, wrists, and forearms are level.

6. Chairs

a. Chairs should be of ergonomic designs allowing for correct leg, hip, and lumbar support.

b. Swivel Chair Springs. Weak spring-tension-adjusting bolts on swivel chairs may break and throw the occupant with considerable force. Bolts should be checked regularly.

c. Tilted Position. Personnel should not sit in a tilted position in any chair. All of the chair feet will be in contact with the floor. Swivel chairs may turn over if the occupant leans back too far.

d. Do not stand on chairs, tables, etc., to reach high objects (i.e., set clocks). Use step stool or ladder.

7. Typewriters

a. Check typewriter-well mechanism on desks regularly to see that connections are secure.

b. Do not, at any time, place typewriters on sliding shelves of desks.

8. Miscellaneous Office Machines

a. Before using office machines, be sure they are properly located and not in danger of falling.

b. Never clean or lubricate electrical appliances when they are in operation. When cleaning electrical appliances which are controlled by a switch on the machine, be sure the switch is turned off and the plug pulled.

c. Do not touch any electrical connection with wet hands.

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d. Protection should be provided against moving parts on addressograph, mimeograph, bookkeeping, tabulating machines, and other types of power-driven office equipment.

9. Fans

a. Each ventilating fan within 7 feet of the floor or working platform will be guarded with no opening exceeding $\frac{1}{2}$ an inch.

b. Fans should be checked regularly to be sure there are no loose blades or defective guards.

c. Small electric fans should not be placed on boxes or low tables or in any other position where an individual might catch hands or clothes in the revolving blades.

10. Wastebaskets

a. Personnel will not put broken glass in wastebaskets. If a tumbler or other piece of glassware has been broken, it is suggested that this material be packed in heavy paper, marked "broken glass," and placed alongside the waste basket at the end of the day so that the person removing the waste will not be accidentally cut.

b. Distorted or damaged metal baskets should be repaired or replaced promptly, since sharp edges and points can cause injury.

11. Ladders

a. Small ladders and stands used in the office will be equipped with tread of nonslip material.

b. Rolling and trolley-type ladders will be provided with braking attachments.

c. Ladders having broken or split side rails or steps will be immediately taken out of service.

d. Ladders will not be painted except with clear lacquer, shellac, or varnish so that defects may be easily seen.

e. For additional information on ladder safety and inspection, refer to paragraph 721.

12. Housekeeping. Keep floors clear of small objects and spills which can cause falls.

13. Lifting. All personnel engaged in handling material of any type will be instructed by their supervisors in, and will carefully follow, the proper method of lifting objects. Refer to paragraph 710.3.a.

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721. LADDER SAFETY AND INSPECTION

1. Ladder Safety

a. Place ladders so that rails have a secure footing and a substantial support at or near the top. Do not place ladders against sash, window panes, or unstable supports; such as boxes or barrels. Ladders will not be placed against window frames unless a board is first spiked across the side rails at the top.

b. Never place a ladder in front of a door opening toward the ladder unless the door is locked or otherwise blocked, barricaded, or guarded.

c. Ladders will be handled carefully when being lowered and not be allowed to drop on their sides or to fall heavily sideways on one rail.

d. Portable metal ladders will not be used near live electric circuits or equipment because of the danger of short circuits or accidental contact with live wires.

e. Ladders will not be used in lieu of scaffolds, platforms, or other substantial working surfaces.

f. When ascending or descending a ladder, the user will always face the ladder. No one will run up or down a ladder or slide down a ladder at any time.

g. No one should go up or down a ladder without the free use of both hands. If handling material, a rope should be used.

h. Portable ladders placed against a wall or other fixed object will be securely fastened or held by a coworker to prevent slippage. The base should be one fourth the ladder length from the vertical plane of the top support. Ladder rails must extend at least 3 feet above the top landing.

i. The clearance space in front of a ladder should be such that it will not be necessary to assume a cramped or unnatural position when climbing.

j. When using portable ladders on a smooth floor or sloping surfaces, they should be equipped with nonslip bases or otherwise secured to prevent displacement.

k. Stepladders will not exceed 16 feet and will be fully opened before anyone steps on them. Tools will not be left on top of stepladders unless tool holders are provided.

2. Portable Ladder Inspection. Supervisors will ensure that ladders are safe before each use. All ladders with weakened, broken, or missing treads, rungs, cleats, or broken/splintered side rails will not be used. All personnel will check their equipment prior to use and bring deficiencies to the attention of their supervisors for appropriate action.

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722. ERGONOMICS

1. Ergonomics is the study of the design of work in relation to the physiological and psychological capabilities of employees.

2. To prevent injuries and illnesses to USNA employees, the requirements of reference (a) will be used to identify, evaluate, and control ergonomic hazards in USNA workspaces.

3. Responsibilitiesa. Safety Department

(1) Conduct an annual analysis of injury and illness experience from injury log records, medical information, and injury compensation records when available. Make a written determination on the need for an ergonomics program as a part of the OSH program self-assessment.

(2) Ensure analysis identifies the department and operations experiencing Cumulative Trauma Disorder (CTD) cases as specified in reference (a).

(3) If required, conduct a screening survey of at least 20 percent of industrial shops and workplaces where data from injury/illness data indicates a high risk of CTDs or a CTD trend indicating the need for an ergonomics program.

(4) Ensure back injury prevention training and care are targeted for personnel at risk for back injury.

(5) Ensure management, supervisors, and employees receive training on ergonomics consistent with the requirements of reference (a).

b. NAVMEDCLINIC

(1) Establish a medical program consistent with requirements of Section 2306 of reference (a).

(2) Ensure occupational health and industrial hygiene staff receive formal training for conducting ergonomics program or screening surveys.

(3) Ensure health care providers are given details of the potential ergonomic hazards and details of the Command ergonomics program.

(4) Establish a wellness program to include weight control, physical fitness, smoking cessation, and stress management.

c. Cost Center/Sub-Cost Center Heads

(1) Ensure employees with back injuries and/or at risk for back injury attend back injury training.

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(2) Ensure managers/supervisors attend ergonomics training to effectively carry out their responsibilities for the health and safety of their employees.

(3) Ensure employees who are potentially exposed to ergonomic hazards attend training to meet the requirements of reference (a).

(4) Facilities Engineers who are responsible for planning, designing, or writing specifications for equipment and processes will employ methods for eliminating or reducing ergonomic hazards in the workplace.

(5) If it is determined that an ergonomic program is required, goals will be established and published for the reduction of CTD cases. These goals will be contained in the Command's annual OSH Program Improvement Plan.

723. ASBESTOS MANAGEMENT AND CONTROL

1. The object of this section is to develop an effective control program for the abatement of and disposal of asbestos and asbestos-containing materials.

2. In recognizing the serious health hazards posed by asbestos exposure, the following protection standards will apply in addition to Chapter 17 of reference (a).

- a. 29 CFR 1910.1001
- b. 29 CFR 1926.58
- c. Maryland State Regulations as applicable.
- d. Environmental Protection Agency Regulations as applicable.

3. Administration

a. NAVMEDCLINIC

(1) Make sure all work involving asbestos to be performed by PWD personnel is performed under the guidance of the NAVMEDCLINIC Industrial Hygienist.

(2) Make sure all contracts for asbestos removal, whether generated by the PWD, ROICC, or the engineering Field Division, Chesapeake, are reviewed for compliance with applicable regulations by the Industrial Hygienist to ensure that all requirements are met.

b. Safety Department

(1) Monitor all asbestos projects, whether local or contract, to make sure regulatory compliance is enforced.

(2) Maintain liaison with the NAVMEDCLINIC Industrial Hygienist, to coordinate for the monitoring of airborne asbestos fibers when required to ensure review of all abatement contracts.

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(3) Provide annual asbestos awareness training for maintenance personnel and their supervisors to ensure their understanding and requirements of the Command's asbestos control program to meet the requirements of Section 1707a and c of reference (a).

(4) Ensure an asbestos permit is obtained by PWD operations per Appendix 3-H, Asbestos Work Permit.

(5) Maintain contract for the quick identification of asbestos-containing materials to expedite maintenance work and make recommendations for work-practice controls.

c. Public Works Department

(1) Make sure all contracts or abatement projects are submitted for review to the Safety Department and the local industrial hygienist for compliance with applicable regulations.

(2) Make sure the asbestos abatement management plan outlining the course of action for the total elimination of asbestos throughout USNA is updated on an annual basis.

(3) Make sure all workers involved with asbestos operations receive formal training on an annual basis.

(4) Make sure the Asbestos Program Manager plays an active role in asbestos operations and maintenance program consistent with the requirements of Section 1705 of reference (a).

(5) Make sure the Asbestos Program Manager receives training and certification on an annual basis.

724. HAZARD COMMUNICATION (HAZCOM) PROGRAM PLAN

1. Applicability. Applies to all employees who routinely work with or are exposed to hazardous chemical(s) (HC) in their workplaces.

2. Definitions. The following definitions will help clarify certain portions of this chapter and are consistent with Federal regulations.

a. Authorized Use List(s) (AUL). A list of hazardous materials (HM) approved for use or distribution.

b. Chemical Manufacturer. An employer with a workplace where Hcs are produced for use or distribution.

c. Container. Any bag, barrel, bottle, box, can cylinder, drum, reaction vessel, storage tank, or the like that contains a HC. (For the purposes of this instruction, pipes or piping systems, engines, fuel tanks, or other operations system in a vehicle are not considered containers.)

d. Distributor. A business, other than chemical manufacturer or importer, which supplies hazardous chemicals to other distributors or to employees.

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e. Employee. A worker (military or civilian) who may be exposed to HCs under normal operating conditions or in foreseeable emergencies. Workers such as office workers or cashiers who encounter HCs only in nonroutine, isolated instances, are not covered.

f. Employer. A person engaged in a business where chemicals are either used, distributed, or are produced for use or distribution, including a contractor or subcontractor.

g. Hazardous Chemical. Any chemical that is a physical hazard or a health hazard per section (c) of reference (a) and with some exceptions as specified in the Community Right-to-Know Law of 1986 (Superfund Amendments and Reauthorization Act (SARA), Title III).

h. Hazardous Material. Any material, as defined in reference (a).

i. Hazardous Waste (HW). Any discarded substance as defined in 40 CFR 261 or applicable state regulations where the state has been granted enforcement authority by the Environmental Protection Agency.

j. Material Safety Data Sheet (MSDS). Information provided by the manufacturer regarding the components of HMs, physical and health hazards, safe handling, storage, and transportation procedures.

3. Policy. This HAZCOM Plan shall be made available, upon request, to employees, their designated representative, or other government officials upon request.

a. Each employee or contractor working on USNA shall be appraised of the HAZCOM Program. All persons working with or routinely coming in contact with HCs shall receive training on the hazardous properties of HM and HC they may be required to work with during the performance of duty.

b. All work-center supervisors ensure that each work area or shop maintains MSDSs for each HM used in that area and that they are readily available to workers.

c. Only HM on the AUL shall be used on USNA. All HM received shall be properly labeled with, as a minimum, the chemical identity, trade name, appropriate hazard warnings, and the address of the manufacturer, importer, or other responsible party.

4. Program Operations and Responsibilities

a. HC/HM AUL. The Safety Department and Hazardous Minimization (HAZMIN) Center will maintain a list of all HC/HMs used on USNA by work location and a unique MSDS number. The AUL will be updated periodically with cooperation of all end users.

(1) The HC/HM AUL and locations where HM is utilized is maintained at the Safety Department and HAZMIN Center in custody of the Hazardous Material Control Program Manager and HAZMIN Center Manager respectively.

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(2) Annual or updated HC/HM AULs will be physically distributed to the USNA Fire, Industrial Hygiene, and Supply Departments, Environmental Division, and other departments upon request.

b. MSDS. The Supply Department and HAZMIN Center shall ensure MSDSs are available for all HC/HMs before receipt. Supervisors are responsible for maintaining MSDSs for all HCs utilized by their work unit. The HAZMIN Center and/or Safety Department will assist in obtaining required MSDSs and will maintain a reference library of MSDSs for each item contained on the USNA HC/HM AUL.

(1) A complete set of all MSDSs is maintained in the HAZMIN Center.

(2) MSDSs for individual work centers are available and supervisors are to instruct employees on access and use.

(3) Individual MSDSs are reviewed upon acceptance and periodically for completeness and accuracy. Within each work unit, a unique identifier is assigned to aid in retrieval by employees and to relate the MSDS to a specific product.

(4) Requests for HC/HM not listed on the USNA AUL must be forwarded with applicable MSDS to the Safety Department on a Hazardous Materials Approval Request (USNA DME 5100/28) (Figure 7-2) for approval before it can be included on the USNA AUL. MSDSs are not to be requested from vendors. MSDSs can also be obtained from the Navy Hazardous Materials Information System (HMIS) computer program.

(5) The Hazardous Materials Approval Request process required the evaluation of manufacturer's MSDS information on the physical, chemical, toxic, and other hazardous properties of that material by the Safety, Fire, and Industrial Hygiene (IH) Departments, and Environmental Division to determine whether a HC/HM is or is not hazardous in its planned use.

c. Labels and Other Forms of Warning

(1) All HM centrally received at the Naval Academy are properly labeled. The Supply Department will initiate action with the manufacturer or vendor to obtain a proper label or properly labeled replacement product(s) as necessary.

(2) The manufacturers' MSDS and HMIS are sources of information on hazard and storage compatibility for the DOD HAZCOM compliant label.

(3) The HAZMIN Center staff is responsible for performing routine periodic inspections to ensure that all HC materials are properly labeled, in proper use, and hazard warnings are properly needed. Such inspections by OSH personnel will be made as a part of scheduled safety inspections and IH surveys.

(4) Pipes and piping containing HC/HM shall be appropriately labeled or otherwise identified as to its contents.

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d. Training

(1) HAZCOM overviews and local information will be provided as a part of the general orientation program.

(2) The Safety Department will conduct periodic HAZCOM training on an as-needed basis.

(3) Supervisors, in cooperation with the Safety Department, will conduct job-specific training for all newly assigned personnel. In addition, chemical-specific training will be given whenever a new hazard is introduced; i.e., a new chemical is being used.

(4) HAZCOM training will include the elements listed below:

(a) A summary of the OSHA HAZCOM Standard and this written program.

(b) Job-specific HM and HCs to which personnel have contact, the chemical properties of the HM, including visual appearance and odor, and methods that can be used to detect the presence or release of HCs;

(c) Physical and health hazards associated with the potential exposure to workplace chemicals.

(d) Procedures to protect against hazards; e.g., engineering controls, personal protective equipment, work practices, and emergency procedures.

(e) HC spill, lead, and disposal procedures.

(f) MSDS information, how to understand its content, how employees may find appropriate hazard information, and applicable MSDS locations.

Records of all training shall be maintained by the Safety Department and will be retained for a minimum of 5 years. HAZCOM training records related to job-specific HM applications and related controls will be retained for 40 years. In the case of HW personnel, 40 CFR 262.34, 264.16, and 265.16 require retention of records for HW personnel for the life of the facility. Records on former employees must be kept for at least 3 years from the date the employee last worked at the facility.

e. Nonroutine Tasks

(1) All supervisors planning nonroutine tasks involving HM shall advise the Safety Department and ensure the employees involved are trained and equipped to the same extent as required for routine tasks.

(2) Training on nonroutine chemical work hazards will be accomplished at a meeting attended by the supervisor(s), affected employees, and the Safety Department prior to initiation of the scheduled work.

f. Contractor, Employers and Employees

(1) Naval Facilities Engineering Command and the Public Works Department shall include contract clauses on requirements that the contractor has a HAZCOM Plan.

(2) Contractors and contractor employees are required to inform the Resident Officer-in-Charge of Construction (ROICC) of HMs brought onto the facility and ensure that appropriate MSDSs are made available for their use.

(3) The ROICC is designated to ensure that all contractors coming aboard USNA are informed of the activity HAZCOM program.

(4) The ROICC, in cooperation with the Safety Department, will inform the contractor of chemical hazards to which contractor employees may come in contact. The Safety Department will provide appropriate MSDSs for government-owned items to the contractor via the ROICC.

g. Host/Tent Command and Other Relationships

(1) The Safety Department is responsible for distributing the command's HM AUL. The Public Works Environmental Division is responsible for Emergency Planning and Community Right-to-Know-Act reporting. It is also responsible for providing, to requesting agencies and community businesses having a written and sanctioned use, information on chemicals used, produced, or stored at various workplaces and locations.

(2) Routine access to AUL and MSDS information is available from the Safety Department located at 257 Longshaw Road, Room 215, ext. 35660 or the USNA HAZMIN Center, Building 194, ext. 34190 or 34191.

(3) In the event of an emergency, the Naval Academy Duty Officer (NADO) will contact the Safety Manager. The Safety Manager will assist in obtaining chemical information.

RESPIRATOR TRAINING AND FIT TEST RECORD

Name: _____ Social Security # (last 4 digits ONLY): _____

Department: _____ Div./Shop/WC: _____ Rate/Job Title: _____

MEDICAL EVALUATION **Must be completed by an occupational health professional prior to initial fit test.**

No restrictions on respirator use. Limited usage. (*note restrictions below*) Respirator use **NOT** permitted.

Restriction: _____

Most Recent Physical Date: _____ Next Respirator Physical Due Date: _____

Signature: _____ Date: _____

Phone Verification Point of Contact: _____ Date: _____

Respirator(s) Selected

Type	Brand	Model	Size
1) _____	_____	_____	_____
2) _____	_____	_____	_____
3) _____	_____	_____	_____

Conditions which may affect respirator fit test: (*check those that apply*)

Facial Scar Wrinkles Dentures Absent Ruptured Ear Drum Other: _____

Respirator Fit Test Performed: (ENTER: **P** = Passed or **F** = Failed)

	<u>Respirator</u>			<u>Respirator</u>			<u>Respirator</u>				
	1	2	3	1	2	3	1	2	3		
Pressure Check (+ / -)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Saccharin Mist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Porta-Count	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Isoamyl Acetate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Irritant Smoke	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

Respirator(s) Assigned

Type	Brand	Model	Size
1) _____	_____	_____	_____
2) _____	_____	_____	_____
3) _____	_____	_____	_____

Training Provided: Initial Annual Other (*specify*) _____

Remarks: _____

Employee Signature

Test Administrated By

Date

The following section is for *Initial Respirator Issue only*.

RESPIRATOR USER QUESTIONNAIRE

Name: _____ Date: _____

1. Operation for which Respiratory Protection is requested:

2. Reason for Respiratory Protection:

*Humanitarian Issue

*Note: For humanitarian/moral issued respirators, a "Yes" answer to any questions (except #4.14) requires a referral to a physician or other health professional.

3. Have you ever worn a respirator? Yes No

If yes, describe any apparent difficulties you may have experienced with respirator use?

4. Have you had or do you now have any of the following?

	<u>YES</u>	<u>NO</u>
1. Lung Disease	<input type="checkbox"/>	<input type="checkbox"/>
2. Persistent Cough	<input type="checkbox"/>	<input type="checkbox"/>
3. Heart Trouble	<input type="checkbox"/>	<input type="checkbox"/>
4. Shortness of Breath	<input type="checkbox"/>	<input type="checkbox"/>
5. History of Fainting or Seizure	<input type="checkbox"/>	<input type="checkbox"/>
6. High Blood Pressure	<input type="checkbox"/>	<input type="checkbox"/>
7. Diabetes	<input type="checkbox"/>	<input type="checkbox"/>
8. Fear of Tight or Enclosed Spaces	<input type="checkbox"/>	<input type="checkbox"/>
9. Sensation of Smothering	<input type="checkbox"/>	<input type="checkbox"/>
10. Heat Exhaustion or Heat Stroke	<input type="checkbox"/>	<input type="checkbox"/>
11. Ruptured Ear Drum	<input type="checkbox"/>	<input type="checkbox"/>
12. Defective Vision	<input type="checkbox"/>	<input type="checkbox"/>
13. Defective Hearing	<input type="checkbox"/>	<input type="checkbox"/>
14. Contact Lenses or Glasses	<input type="checkbox"/>	<input type="checkbox"/>
15. Other Conditions that might interfere with respirator use or result in limited work ability	<input type="checkbox"/>	<input type="checkbox"/>
16. Are you presently taking any medications?	<input type="checkbox"/>	<input type="checkbox"/>

Please explain any "Yes" answers:

➡ **RESPIRATOR TRAINING AND FIT TEST RECORD on reverse** ➡

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HAZARDOUS MATERIALS APPROVAL REQUEST

SECTION A. Ordering information *must be fully completed* and product Material Safety Data Sheet(s) *must be attached*

Requesting Dept./Div./WC: _____ Phone #: _____

Item is: Not on Divisional Authorized Use List (AUL)

New Product* - Distributor Name: _____

Address: _____

POC: _____ Phone #: _____

Price Per Unit: _____

Product Name: _____ Quantity: _____

Product NSN/Stock Number: _____ Unit of Issue: _____

Reason for Order: _____

Frequency of Use of Requested Product: Ongoing Usage One-Time Order - Expected Length of Use: _____

Storage Location: _____

* If this is a **new product**, is another currently used item being replaced by this order? NO YES, if yes:

Name of Item Being Replaced: _____ Remaining Quantity in Stock: _____

Signature: _____ Date: _____
Originator

SECTION B. Safety Department Review (Stop 18B)

- Order Approved
- Order Not Approved

Excessive Quantity

Less Hazardous Materials Required, Reason: _____

Additional Approval Required: *(Signature required upon approval)*

Industrial Hygiene _____ Date: _____

Environmental _____ Date: _____

Fire Department _____ Date: _____

Special Instructions/Remarks: _____

PPE Required: NO YES, specify: _____

Signature: _____ Date: _____
HAZMAT or Safety Manager

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CHAPTER 8

HAZARDOUS ENERGY (LOCKOUT/TAGOUT) PROGRAM801. GENERAL

1. Applicability. Applies to all personnel on USNA.

2. Policy. Establishes a Command-wide lockout/tagout program intended to comply with the Federal standards issued by the OSHA in 29 CFR 1910.147. At time of issue, the Federal standard establishes stricter requirements than existing Navy directives. In cases of conflict, Federal regulations take precedence. Cases of conflict that pose a hazard or operational conflict will be brought to the attention of the Safety Department for review and resolution. Lockout and tagout devices will be standardized throughout departments, as determined by the Safety Department.

3. Scope. Lockout/Tagout requirements apply to all personnel and directly to those involved in servicing and maintenance of machines and/or equipment. It's important to note that this chapter extends to control of all energy, including, but not limited to, steam, pneumatic, hydraulic, water, electric, etc.

4. Purpose. To establish a lockout/tagout program in compliance with Federal regulations and to provide the minimum acceptable level of protection to workers from unexpected energization, start-up, or release of stored energy during servicing and maintenance of machines and/or equipment. Departments herein will review the program as it applies to their operations. When necessary, they will establish additional guidance in the form of SOPs to ensure program intent is met at the work level.

5. Definitions. The following definitions will help clarify certain portions of this chapter and are consistent with Federal regulations.

a. Authorized Employee. An employee who has received documented training in energy control procedures and is authorized by the Department Head/Special Assistant, and supervisor to use lockout and/or tagout procedures.

b. Affected Employee. Any employee whose job requires them to use machines or equipment on which servicing or maintenance is being performed under lockout and/or tagout or any employee whose job may expose them to lockout or tagout in any manner.

c. Tagout Device. A prominent warning device consisting of a tag and means of securing that is capable of being exposed to wet or damp conditions without deterioration to itself or the message on it. It must also be nonreusable, hand attachable, self locking, and nonreleasable with a minimum unlocking strength of at least 50 pounds. (Note: Command tagout devices will be plastic with a nylon cable tie.)

d. Energy Isolation Device. Any switch, valve, or other mechanical device which physically prevents the transmission or release of energy.

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802. ELEMENTS OF THE PROGRAM. The following elements comprise the Command lockout/tagout program.

1. Lockout. Lockout is the preferred method used to control hazardous energy and will be used whenever possible. It simply involves use of a lock and tag to positively identify the lockout and secure an energy-isolation device; such as, a disconnect switch, circuit breaker, valve, etc., including those which control electrical, mechanical hydraulic, pneumatic, thermal and other energy sources.

2. Tagout. Tagout is the method that will be used whenever lockout cannot. It consists of placing a tag in an appropriate location to warn workers of hazardous conditions if a machine or equipment is energized and that an energy control device is secured. It's not considered as effective as lockout, since it provides no physical restraint to operation of an energy isolation device and must be strictly controlled.

3. Upgrade of Equipment. Whenever major replacement, repair, renovation, or modification to equipment or machinery is performed, provisions to provide energy isolation devices designed for lockout will be included. The Public Works Officer and appropriate department heads are responsible for ensuring this provision is met and included in all contracts and work under their review.

4. Contractor Operations. The Public Works Officer or cognizant department head will ensure:

a. All contracts inform the contractor of command lockout/tagout procedures.

b. Contractors inform them of contractor lockout/tagout procedures.

c. Such information is relayed to appropriate government personnel and these personnel understand and comply with contractor lockout/tagout prohibitions and restriction.

d. Contractor operations performed for contracts under their purview or in spaces they control are completed in a manner that will not expose government employees to hazards from uncontrolled energy in violation of OSHA provisions. The Safety Manager will assist in determining Federal regulation applicability upon request.

5. Training and Communication. Adequate training and retraining is essential to ensuring an effective energy control program. To achieve this goal, the following training elements will be adhered to:

a. Each Department Head/Division Officer will ensure that all personnel are adequately trained in the energy control program and that such training is documented. Retraining commensurate with the hazard must be provided whenever an employee changes jobs. Department-level training will adequately address the following as a minimum.

(1) For affected employees:

(a) Purpose and use of energy control procedures.

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(b) Procedures and prohibitions relating to attempts to restart or reenergize machines or equipment that are tagged out.

(c) Tagout limitation that tags are warning devices.

(2) For authorized personnel, in addition to the above, training will include:

(a) Recognition of applicable hazardous energy sources, the type and magnitude of energy available in the workplace, and the method and means necessary for isolation and control of energy.

(b) Details of energy control administrative requirements.

(c) Necessity for ensuring tags are legible and fully completed to ensure they convey adequate warning information.

(d) Necessity for ensuring all personnel who may be involved in work on a machine or item of equipment (including other shifts, departments or divisions) are aware of the energy controls established, for what reason they were established, and who established them.

(e) Actual tagout and lockout installation methods and procedures and limitations.

(3) Safety Manager will provide basic energy control program information training to all employees during the new employee safety orientation. Training will address the following as a minimum:

(a) Basic program elements.

(b) Basic program element responsibilities.

(c) Familiarization with program tags/warning devices and hardware.

(d) Procedures and prohibitions relating to attempts to restart machines or equipment that have been locked or tagged out.

803. ENERGY CONTROL EQUIPMENT. Each department required to use energy control procedures will:

1. Procure the necessary locks and tags. These will be dedicated to the program and be issued only for that purpose. (Departments are responsible for providing materials beyond locks and tags when required for this program.)

2. Issue locks to individual employees as necessary. The lock or tag will be labeled or marked to positively identify by name, shop, and phone number of the employee to whom the tag was issued.

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804. SPECIFIC ENERGY CONTROL PROCEDURES

1. All authorized personnel will be familiar with these minimum, specific, energy-control procedures and adhere to them. Cases of conflict will be brought to the attention of the appropriate supervisor and be resolved prior to energy controls being established or work performed.

a. Preparation for lockout and/or tagout.

(1) Make survey of the work site and equipment involved to:

(a) Become familiar with the type(s) and magnitude of energy(ies) used and its hazard(s).

(2) Locate and identify all isolating devices that apply to the machine or equipment to be worked on (note that more than one energy source may be involved).

(3) Identify all effected employees.

(a) If operating, shut down machine or equipment using normal procedures.

(b) Isolate machine or equipment from energy source(s).

(c) Release, dissipate, or restrain any stored energy (springs, capacitors, pressure, rotating parts, etc.)

(d) Establish adequate energy control(s) (apply properly completed tags/locks/other warnings, etc.).

(e) Ensure all affected employees are clear of hazard, then operate the normal energy isolation devices (on switches, etc.) to test and verify that the machine or equipment has been isolated properly.

(f) Ensure normal energy isolation device is returned to the neutral or off positions after this test.

(4) Secure energy controls and restore machine or equipment to normal service.

(a) Check area and ensure all affected employees are clear of hazards, and advise them of your intent to restore normal operations.

(b) Verify all tools are removed from machine or equipment, that any appropriate guards are replaced, and that machine or equipment components are operationally intact. If energy control devices are removed by anyone other than the authorized employee who installed it/them, the Department Head will provide advance written approval; and the authorized employee who placed the lockout/tagout will be notified.

(c) Upon removal of locks and tags, operate energy isolation controls to establish normal service to machine or equipment.

(d) Advise affected employees of restoration of normal service.

(5) Procedure when more than one person is involved.

(a) Each authorized employee will make a survey of the work site and equipment involved to:

1 Become familiar with the type(s) and magnitude(s) of energy used and its hazard(s).

2 Locate and identify all isolating devices that apply to the machine or equipment to be worked on (note that more than one energy source may be involved).

3 Identify all affected employees.

(6) Upon approval:

(a) Notify all affected employees that energy controls are being established and why.

(b) If operating, shut down the machine or equipment involved using normal procedures.

(c) Isolate machine or equipment from energy source(s) using the following procedures:

1 Each authorized employee will place their own properly completed personal lockout or tagout device(s) on the energy isolation device(s).

2 If the energy isolation device(s) cannot accept multiple lockout or tagout equipment, then a multiple lockout/tagout hasp will be employed.

3 For lockout only, if the normal multiple lockout hasp cannot be used, an alternate method can be employed; i.e., one lock is placed to secure the energy isolation device(s) and the key to that lock is placed in a "lockout box" which allows multiple locks to be used to secure the box.

805. RECORDKEEPING AND OVERSIGHT

1. Each supervisor will:

a. Maintain a log of all lockout/tagout operations.

(1) Ensure employees receive training identified in this chapter and that the training is documented with a copy provided to the Safety Department.

(2) Perform periodic self-audits of the lockout/tagout program within his/her respective divisions.

EE

(a) If no energy control operations are performed in the month then the first such operation in the earliest following succession of order will be observed quarterly, semiannually, and annually.

2. A lockout/tagout coordinator may be assigned within respective departments to maintain logs and conduct reviews.

3. The Safety Department will evaluate the Lockout/Tagout Program as a part of the annual OSH Program self evaluation and during routine safety inspections.

CHAPTER 9

CONFINED SPACE ENTRY/GAS FREE ENGINEERING PROGRAM901. GENERAL

1. The Confined Space Entry (CSE) and Gas Free Engineering (GFE) programs are implemented to ensure that all entry and work in confined spaces is performed in a safe manner per references (a) and (b). The following is an overview of USNA policy:

a. Personnel will only enter and work in confined spaces where the conditions are certified safe and life-sustaining. Designated CSE personnel are the sole authorities for inspecting spaces and issuing permits (Figure 9-1) and specifying conditions of entry and work in confined spaces. This control extends to work performed from or on the outside of a confined space where hazards may be introduced to the operation.

b. Work will be conducted only where and, in such a manner that the operation does not generate flammable, explosive, toxic, or other physical hazards, oxygen deficiency, and/or enrichment of the atmosphere.

c. Where the above requirements cannot be entirely met, such work will be undertaken only under the strict guidelines established by the Confined Space Program Manager (CSPM).

d. The CSPM and Assistant Confined Space Program Manager (ACSPM) are designated, in writing, by the Superintendent. The CSPM may appoint one or more Confined Space Qualified Persons (CSQP) to provide initial inspections and authorizations for entry into non-permit required confined spaces. The Safety Department is responsible for managing and coordinating all actions and/or programs that carry out the policies of this instruction.

e. All confined space operations performed by civilian employees on boats, barges, and other craft while in a repair status and/or Yard Patrols are subject to 29 CFR 1915, OSHA Shipyard Industry Standards. For operations requiring a "NFPA Marine Chemist," services will be obtained per guidance provided by the Safety Department.

f. Afloat Gas Free Engineering GFE personnel may be designated in writing as "Competent Persons" for operations onboard Yard Patrol (YP) crafts.

g. The USNA Fire Chief will provide support as required, specifically being responsible for developing, implementing, and updating emergency and rescue procedures and conducting emergency reserve training annually per reference (a).

h. Supervisors will ensure that personnel do not enter spaces or allow confined space work to proceed except as certified safe by the CSPM, ACSPM or CSQP.

EB

i. All contractors and their personnel must comply with the requirements of reference (b) where applicable. Contractors will provide their own confined space inspection and permit services. Navy personnel will not certify contractors' confined space work except in cases where Navy personnel and/or property are impacted. In such cases, the Navy permit will be valid only for Navy personnel. The Resident Officer in Charge of Construction (ROICC) is responsible for the coordination of confined space entry permitting and entry when both contractors and Navy employees are involved.

902. RESPONSIBILITIES

1. CSPM

a. Meet the qualifying standards of reference (a). In addition, such personnel must have a demonstrated working knowledge of hazard recognition and control principles as applied to confined space operations

b. Administer the CSE Program to ensure a safe work environment. This will include implementing all of the elements of a confined space program per reference (b).

c. Implement the protocol for the inspection and testing of confined spaces for entry. This basic protocol required the inspection of confined spaces for absence, presence, and concentration of:

- (1) Oxygen deficiency or enrichment.
- (2) Flammable, combustible, or explosive hazards.
- (3) Specific toxic hazards.
- (4) Physical hazards, including but not limited to, electrical, temperature extremes, entrapment, equipment, lighting, moving machinery, etc.
- (5) Any combinations (1), (2), (3) or (4).
- (6) Other physical hazards to personnel.

d. Provide training and/or indoctrination of personnel managing, supervising, instructing in or performing affected operations in the existence and location of a permit required confined spaces, the hazards of confined or enclosed spaces, and the safety precautions necessary to control such hazards. Specific training will be provided for the duties of supervisors, entrants and attendants. Copies of the written CSE program will be made available to all employees.

e. Properly train, qualify, and certify all CSQP. The above training will include the demonstrated knowledge of confined-space evaluations, entry and work procedures, proper use and calibration of instrumentation; selection, issue, and maintenance of personal protective equipment; employee notification and emergency procedures for the specific operation.

f. Label all confined spaces which may be easily opened and entered (i.e., without special tools) and/or ensure that all affected personnel have adequate training on the identification/recognition of such spaces and how to obtain inspection services.

g. Procure, maintain, and calibrate required instrumentation in sufficient type and quantity to meet the requirements of confined space inspections.

h. Provide for the evaluation and testing of confined or enclosed spaces and for the preparing, issuing, and posting of certificates and permits for confined spaces, indicating the space conditions and required hazard elimination and/or control measures required for entry.

i. Establish when requirements for cleaning, ventilating, or other treatment may be necessary for confined or enclosed spaces. Provide guidance on how to carry out such actions.

j. Notify the appropriate Department Head when any hazardous situation is detected which causes work stoppage and/or personnel evacuation.

k. Maintain CSE-related records as required by references (a) and (b)

l. Ensure the CSE programs are evaluated annually as required by references (a) and (b).

2. ACSPM and CSQP

a. Meet the qualifying standards of reference (a) as applicable. ACSPM duties are the same as those stated for the CSPM, with the exception of program management. CSQP duties are limited to the inspection of confined spaces to determine the correct space classification and to authorize entry into non-permit required confined spaces.

b. Conduct inspections and tests of confined or enclosed spaces in accordance with their individual letters of certification.

c. The CSQP will perform atmospheric testing on confined spaces and will inspect for physical hazards. If the space does not contain, or have the potential to contain, any atmospheric or serious physical hazards, the CSQP may reclassify the space as nonpermit required. If the space contains hazards which cannot be eliminated, the CSQP shall contact the CSPM or ACSPM to inspect and provide an entry permit.

d. Make sure certificates and/or permits are correctly issued, posted, maintained, and updated. Communicate with supervisors and affected employees the requirements of the certificate or permit. The cognizant supervisor must be present to sign the permit. He/she will assume responsibility for ensuring the requirements of the permit are met for the duration of the job.

e. Cause all work to stop and require all personnel to evacuate a confined or enclosed space where an unsafe condition is detected or suspected. Immediately notify the job site supervisor.

f. Properly calibrate, use, and maintain required test instruments. Specifically, direct reading instruments will be calibrated on a known concentration of the test contaminant prior to each day's use. A post inspection functional test will be performed on each instrument used. Detector tubes will not be used beyond their expiration date.

g. Activate emergency procedures as required by the nature of the operation, including the presence of required personnel and equipment, ensure medical assistance is available, and that all personnel are familiar with the established procedures before authorizing entry or work.

h. Retrieve and cancel permits upon expiration or when the job is complete, whichever is earlier. Provide follow-up or new permits as necessary.

i. Perform record-keeping duties as required by references (a) and/or (b) where applicable.

3. Fire Department/Fire Chief

a. Function as the emergency rescue team for all confined space operations within the Annapolis Naval Complex and the central control point for notification of emergencies.

b. Ensure that all rescue personnel are trained for specific confined space operations on USNA. Specifically, a minimum of one simulated rescue training session per year is required.

c. Upon notification of an emergency, initiate appropriate rescue procedures.

4. Supervisors

a. Monitor operations to determine proper procedures are followed before, during, and after hot work in, on, or adjacent to confined or enclosed spaces. This includes the set-up of special equipment as specified on the permit; e.g., ventilation, retrieval hardware, temporary railings, etc.

b. Ensure personnel do not work alone or unobserved in hazardous operations in confined or enclosed spaces and attendants are not assigned any additional duties.

c. Make sure all personnel are familiar with and adhere to emergency rescue and medical treatment procedures established by this instruction.

d. Make sure personnel performing confined-space operations are trained in the hazards of confined or enclosed spaces and the safety procedures necessary to control such hazards.

903. PROCEDURES

1. All spaces meeting the definition of confined spaces per references (a) and (b) will be evaluated and listed in a master inventory. This inventory along with accompanying hazard assessments will be made available to all supervisors and employees.

2. Confined spaces which clearly contain no existing or potential atmospheric or physical hazard (or where such hazards are eliminated prior to entry) will be classified as non-permit required. Entry and work in such spaces will not require special authorization. However, safe work practices will be adhered to; and supervisors must contact the Safety Department in the event a hazard is encountered and/or may be introduced.

3. Confined spaces which contain existing or potential atmospheric and/or physical hazards will be classified as "permit required." Prior to entry into such a space, the space must be inspected by the CSPM or ACSPM. If the space contains atmospheric hazards which cannot be controlled to safe levels or eliminated by ventilation, and/or contains physical hazards that cannot be eliminated, entry procedures and equipment for the job will be in strict compliance with reference (b) for permit spaces. If the space only contains an atmospheric hazard which can be controlled to safe levels by ventilation, the CSPM/ACSPM will specify alternate entry procedures and equipment appropriate for the job in accordance with reference (b). If, after a thorough inspection by CSE personnel, it is determined that all hazards can be eliminated, the space will be re-classified as "non-permit required." The CSPM, ACSPM or CSQP will provide written authorization for entry. If any operation within the space occurs that may change the conditions (i.e. introduction of a potential hazard), the space will require an inspection and possible re-classification by CSE personnel.

4. For permit required confined spaces, a Confined Space Entry Permit will be issued and posted at each entry location. For nonpermit required spaces, the CSPM, ACSPM or CSQP will issue a Confined Space Entry Certificate which will include information on the space, inspection, and testing results and procedures as needed. All permits and certificates shall be retrieved and canceled upon expiration.

5. A review of findings and safety requirements will be conducted with affected employees and their supervisor(s). The supervisor is required to sign the permit and to ensure all conditions of the permit are met. Employees must observe all space testing and inspections.

6. General procedures applicable to both permit required and nonpermit required confined spaces are as follows:

a. Evaluate the space for physical conditions such as electrical exposures, poor lighting, asbestos, temperature extremes, entrapment hazards, rodents, snakes, escape routes, etc.

b. Secure steam leaks to all leaky pipes and/or fittings. If the space is normally kept closed, ventilate the space as needed. Completely pump out flooded areas and ensure that the source of flooding is eliminated or controlled.

c. Ensure that adequate lighting is provided. Flashlights may not be adequate. Drop lights with Ground Fault Circuit Interrupters are recommended if the space lacks permanent lighting.

d. Energy-carrying media (steam, electricity, etc.) to the system being worked on must be secured (blanked off if necessary) and locked out.

e. PPE appropriate for the job must be used as per the shop's PPE survey and guidance or as specified by confined space inspectors.

f. Any hotwork (brazing/burning/welding) in a confined space and/or hollow structure (including pipelines) requires a Fire Department burn permit in addition to a confined space permit.

g. Ventilation must be provided when necessary to control actual or potential hazardous atmospheres and/or provide reasonable comfort in extreme heat and cold conditions.

h. Activities not allowed in confined spaces unless approved by the CSPM or ACSPM.

(1) Introduction of, or use of any chemicals.

(2) Exposure to, or any work on known or suspected asbestos-containing materials.

(3) Use of any flammables and/or oxidizers unless approved by the Fire Department.

(4) Working on or in the presence of exposed energized equipment.

(5) Working alone (without an attendant) and/or entry into dead-end areas without effective communication measures and rescue procedures.

(6) Entry into any space marked as hazardous (or other restrictions prohibiting entry).

(7) Smoking.

(8) Hotwork on pipelines or other hollow structures within the space or anywhere on USNA (unless approved by Fire and Safety).

i. If any space has conditions that are suspected as hazardous (e.g., foul odors, possible gas leaks, asbestos, etc.) or where employees are not sure of confined space entry requirements, the supervisor must contact the Safety Department prior to entry.

j. An attendant must be posted at the entrance to the space and effective communications must be maintained at all times. If verbal communication is inadequate, the CSE inspector will specify the most effective means of contact between the entrant and attendant. The attendant is not to be assigned other duties while the entrant is inside the confined space.

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k. Acceptable atmospheric conditions for entry into any confined space include the oxygen levels at approximately 20.9 percent and toxic concentrations under the OSHA Permissible Exposure Limit (PEL). However, in practice on USNA, any abnormal oxygen levels or toxic concentrations, even if the PEL is not exceeded, will cause the space to be deemed unsafe for entry until a thorough investigation of the contaminant source is found, eliminated, and/or effectively controlled. All physical hazards must be either eliminated or controlled to prevent any exposure to employees. PPE will be specified when engineering and administrative measures are not adequate. PPE may be issued as a precautionary measure or for employee comfort.

l. Under no circumstance will employees be allowed to enter a space where conditions are Immediately Dangerous to Life or Health, the only exception being Fire Department personnel conducting emergency operations.

7. The Confined Space Entry Program will be evaluated at least annually. An evaluation will also be conducted in the event of a confined-space-related mishap or if there is an occurrence that would indicate that the program lacks effective employee protection measures. The evaluation will include a thorough review of CSE personnel qualifications, employee training, employee performance, space evaluations, classifications and marking, and canceled certificates. This evaluation may be included as a part of the annual OSH program self-assessment process.

CONFINED SPACE ENTRY CERTIFICATE/PERMIT																				
PERMIT DATE/TIME: _____		EXPIRATION DATE/TIME: _____																		
LOCATION: _____			DESCRIPTION: _____																	
PURPOSE OF ENTRY: _____																				
AUTHORIZED ENTRY PERSONNEL				AUTHORIZED ATTENDANTS																
_____				_____																
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ATMOSPHERIC TEST DATA																				
% OXYGEN: _____ TOXIN (_____): _____ % LFL: _____ TOXIN (_____): _____ TESTED BY: _____ NAME _____ DATE _____					FOLLOW-UP															
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<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">TEST INSTRUMENT</th> <th style="width: 10%;">PRE-ENTRY CALIBRATION DATE</th> <th style="width: 10%;">POST-ENTRY FUNCTION CHECK</th> <th style="width: 10%;">O₂</th> <th style="width: 10%;">% LFL</th> <th style="width: 10%;">TOXIC/ H₂S</th> <th style="width: 10%;">TOXIC/ CO</th> </tr> </thead> <tbody> <tr> <td> </td> </tr> </tbody> </table>							TEST INSTRUMENT	PRE-ENTRY CALIBRATION DATE	POST-ENTRY FUNCTION CHECK	O ₂	% LFL	TOXIC/ H ₂ S	TOXIC/ CO							
TEST INSTRUMENT	PRE-ENTRY CALIBRATION DATE	POST-ENTRY FUNCTION CHECK	O ₂	% LFL	TOXIC/ H ₂ S	TOXIC/ CO														
DOES THE SPACE HAVE: Hazardous atmosphere potential? <input type="checkbox"/> YES <input type="checkbox"/> NO DESCRIBE: _____ Engulfment/Entrapment hazard? <input type="checkbox"/> YES <input type="checkbox"/> NO DESCRIBE: _____ Serious Safety/Health hazards? <input type="checkbox"/> YES <input type="checkbox"/> NO DESCRIBE: _____																				
SPACE CLASSIFICATION PERMIT REQUIRED <input type="checkbox"/> YES <input type="checkbox"/> NO ALTERNATE ENTRY PROCEDURES APPLY (IF PERMIT REQUIRED) <input type="checkbox"/> YES <input type="checkbox"/> NO																				
REQUIRED SAFETY PRECAUTIONS																				
REQUIREMENTS	YES	NO	SPECIFIC INSTRUCTIONS																	
PERSONAL PROTECTIVE EQUIPMENT																				
FIRE WATCH																				
EXTINGUISHER																				
VENTILATION																				
SPACE PREPARATION																				
LOCK OUT/TAG OUT																				
COMMUNICATION PROCEDURE	<input type="checkbox"/> VISUAL <input type="checkbox"/> VOICE <input type="checkbox"/> RADIO <input type="checkbox"/> OTHER _____																			
RESCUE EQUIPMENT ON SITE?	<input type="checkbox"/> YES, SPECIFY BELOW <input type="checkbox"/> NO																			
EMERGENCY INSTRUCTIONS: On Site Rescue Service - USNA Fire Department. <i>IN CASE OF EMERGENCY CALL EXT. 3-3333</i>																				
OTHER CONTROLS/REMARKS: _____ <div style="text-align: right; padding-right: 50px;"> FOLLOW-UP TESTS REQUIRED: <input type="checkbox"/> YES <input type="checkbox"/> NO INTERVALS: _____ </div>																				
_____ Confined space Program Manager/Assistant				_____ Work Center Supervisor																
Distribution: <input type="checkbox"/> Entrance(s) <input type="checkbox"/> Work Center: _____				<input type="checkbox"/> File Copies																