

ROICC PERSONAL PROTECTION

Training and information - Protection for you -



REFERENCES:

A) OPNAVINST 5100.23E

B) NAVFACENGCOMINST 5100.11J

C) LANTNAVFACENGCOM 5100.17

D) USACE EM 385-1-1 (3 SEP 1996)

E) LANTNAVFACENGCOM ROICC HANDBOOK

**F) LANTNAVFACENGCOM CONSTRUCTION
SAFETY RESOURCE MANUAL**

G) LANTNAVFACENGCOMINST 5100.14

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I) Site Conservation:

- Construction sites contain eye hazard areas.**

Examples of eye hazard areas on construction sites are:

- **Sawing of material (metal, wood, concrete, plastic, tile)**
- **Grinding of material (metal, wood, plastic, concrete)**
 - **Chipping (concrete, plaster, tile)**
- **Impact of material (powder actuated tools, i.e. Hilti)**
- **Chemicals (Paints, brick cleaning agents, cleansers, degreasers, fuels, acids, caustics)**
- **Hot substances (roofing asphalt, hot molten metals)**
- **Welding, brazing, and soldering areas (radiant energy)**

Protection required:

- Protection varies depending on the type of material. Refer to USACE EM 385-1-1, Table 5-1 for eye protection requirements.
- LANTNAVFACENGCOMINST 5100.17 states that eye protection is available through request to LANTNAVFAENGCOM Code 0526.
- 5100.17 also states that Prescription safety glasses, when purchased, are reimbursable.

- **If your vision is less than 20/200 you are not authorized in areas where there is an eye hazard.**

- **This is for your protection**

- **The best defense is awareness and avoidance. Identify those areas where eye protection is required and remain a safe distance from the operation.**

- **If necessary to enter the area follow established procedures for obtaining the correct protective eyewear personal protective for the hazard.**

II) Personal Protective Equipment PPE

The last Line of Defense:

ROICC PPE (Head to Toe)

- **The HARD HAT**
 - **Safety Shoes**
- **Protective Clothing**

HARD HAT

- Issued by

LANTNAVFACENGCOM

as described in

LANTNAVFACENGCOMINST

5100.17 meeting ANSI Standard

Z89.1 - 1997

Hard Hat requires Daily inspection for:

- Scratches
 - Dents
 - Holes
 - Cracks
 - Frayed straps
- (all are rejectionable)

Hard Hat Care:

- When not in use, store out of direct sunlight.
- Keep away from detergents, solvents, or fuels.
- Discard if any impact occurs.
 - Do not paint.

REFER TO BULLARD

**“Installation Instructions for
Headband Suspensions”
accompanying each hat for
proper suspension
installation and fit.**

SAFETY SHOES

Construction sites have been surveyed and are considered foot hazard areas. All

LANTNAVFACENGCOM personnel are required to utilize protective footwear.

Employee Footwear

**meeting the requirements of
LANTNAVFACENGCOMINST
5100.17 and ANSI Z 41.1(Class 75) is
reimbursed by LANTNAVFACENGCOM
via Code 0526**

In case your asked:

- Only leather shoes with hard soles which are ANSI approved for construction are authorized. Canvas type tennis shoes are not acceptable.

PROTECTIVE CLOTHING:

- Includes clothing deemed appropriate by each employees' supervisor for tasks assigned.

Consideration may be given to temperature or moisture conditions necessary to protect the health and well being of each

LANTNAVFACENGOM employee

III) Hearing Protection

**Construction sites
contain areas where
hearing protection is
required.**

How loud is too loud?

Without a test instrument it is difficult to identify the exact amount of noise exposure. As a rule, utilized by Industrial Hygienists, if you are unable to hear a normal conversation using normal voice tone and volume at a distance of two feet then protection is required. Leave the area or obtain protective equipment.

- **A representative sample of LANTNAVFACENGCOM construction sites are surveyed using dosimeter instruments each year by Industrial Hygienists (IH) to determine the amount of potential noise exposure to ROICC employees.**

- **Based on these results the Industrial Hygienist makes subsequent recommendations in hearing personal protection.**

- **No employee shall be exposed to noise levels greater than 84 decibels (dB) during a time weighted average of 8 hours or an impulse noise of 140 dB.**
- **When the IH survey indicates noise levels for groups of employees is greater than 84 dB these employees are placed in the LANTNAVFACENGCOM Hearing Conservation Program.**

- **Most recent surveys have recommended that ROICC Construction Representatives/Engineering Technicians be included in the program.**
- **These groups are required to participate in annual hearing audio testing.**

IMPORTANT POINTS TO REMEMBER

- **The leading cause of hearing loss is excessive noise.**
- **About 15 million Americans have measurable hearing losses.**
- **Short exposures to extremely loud noise are known to cause permanent hearing damage.**
- **Most hearing loss occurs in the first 2 hours of exposure.**
- **Tinnitus may be defined as a “ringing” in the ears, and may be a sign that you are starting to lose your hearing.**

Other noise levels are:

**Soft whisper - 30 dB, Quiet Office - 40 dB, Average Home - 50 dB,
Busy Traffic - 75 dB, Noisy Restaurant - 80 dB, Jet Plane - 140 dB.**

Hearing protection devices are available from ROICC supervisors as supplied by Code 0526. Each device has its own use and care requirements and have varying noise reduction capabilities.

Disposables:

Because of their ease of fit and availability disposable ear protection are normally utilized. Their noise reduction rating is relatively high, normally around 29 dB.

**A noise reduction rating (NRR)
of 29 dB example:**

**If in area of 90 dB your
exposure is reduced by the
29dB (NRR) to 61 dB or 23 dB
below the 84 dB hour exposure
limit.**

Although annual noise dosimeter readings by Navy IH professionals are performed construction site noise exposure readings should be evaluated by the site contractor.

**Additional
LANTNAVFACENGCOM
noise surveys can be made
available.**

IV) HAZARDOUS MATERIALS

LANTNAVFACENGCOM

5100.14 establishes the

**Command program for hazardous
material control and management**

What is a hazardous material?

One which is potentially dangerous to life health and property. It includes flammable, toxic, radioactive, gaseous, and carcinogenic materials.

How will I know it is hazardous?

Any material with a warning
label or caution label is a
hazardous material.

What's required?

Each hazardous material must have its own Material Safety Data Sheet (MSDS). The MSDS must be available to all employees at a known location

How do I get an MSDS?

When ordering products and services involving hazardous materials it is extremely important to request the product MSDS from the supplier with each order.

What's on an MSDS?

- **Vital information to assure utilization of appropriate protective equipment and measures**
 - **Chemical reactivity**
- **Emergency exposure information**
- **Material storage requirements**



HAZARDOUS MATERIALS CODE 05

MATERIAL SAFETY DATA SHEET INVENTORY

| TAB # | DESCRIPTION |
|--------------|---|
| 1 | APPLE LASER WRITER CART. "EP-11" |
| 2 | CANON "SX" CARTRIDGE TONER |
| 3 | CANON LBP CARTRIDGE "HP" 92295A/92 |
| 4 | CORRECTION FLUID "LHB" INDUSTRIES |
| 5 | CANON FAX "L770" CARTRIDGE |
| 6 | CANON "EP-S" CARTRIDGE |
| 7 | ULTRASHIELD DRUM LUBE |
| 8 | BENGAL ROACH & ANT SPRAY |
| 9 | BENNETTE PAINT LATEX EGGSHELL ENA |
| 10 | DISC HEAD CLEANER CHEMTRONICS |
| 11 | GLASS CLEANER, REGULAR LIGHTHOUSE |

V) Confined Spaces

**29 CFR 1910.146, LANTNAVFACENGCOM 5100.17, &
USACE EM 385-1-1**

- ROICC employees are not authorized to enter confined spaces.
- Special exceptions may be granted by the employee supervisor and LANTNAVFACENGCOM Code 0526 only after exhaustion of all alternate means for performing quality control verification.

A Confined Space is:

A space that (1) is large enough and so configured that a person can bodily enter and perform assigned work; and (2) has limited or restricted means for entry or exit such that the entrants ability to escape would be hindered; and (3) is not designed for continuous worker occupancy.

Alternate means (other than entry) for confined space quality control verification include:

- Contractually requiring third party specialty verification (ie NACE inspections for tank coatings)**
- Utilizing station resources for entering space to assist in verification (ie station PWC maintenance/end user personnel)**
- Using video or photographic equipment**
 - Observation from outside space**

- **Should a rare special need arise, employees will be required to attend an extensive site specific entrant training coordinated by each supervisor and Code 0526.**
- **At no time will employees utilize contractor permit entry systems.**

**Contract work involving
Confined spaces require the
maximum use of the
contractors quality control
program for inspections.**

VI) Respiratory Protection

There are currently no ROICC employees within LANTNAVFACENGCOM enrolled in the respiratory protection program. Industrial Hygiene surveys have established that there are no employees presently whose tasks require entry into area requiring respiratory protection. Employees are not authorized to utilize respiratory protection. Should special need for respirator protection arise, and after authorization from each employee supervisor and Code 0526, the established respiratory protection program standard operating procedures shall be followed.

VII) ASBESTOS CONTROL

For your protection, ROICC employees are not authorized to enter contract site areas where established asbestos control areas are in effect.

- **Quality verification for Contract operations involving asbestos abatement activities shall be from outside the containment areas**

- **performed by qualified EPA accredited ROICC employees in accordance with**

NAVFACENGCOMINST 5100.11J

Recommended non-entry quality verification procedures for asbestos abatement:

- **Assure contract documents have identified all asbestos containing materials.**
- **Assure a comprehensive site specific contractor abatement plan reviewed by qualified ROICC and/or A & E personnel.**
 - **Assure pre removal meeting is held on site.**
 - **Prior to start of work verify visible quantities.**
- **Utilize NAVFACENGCOM Asbestos Resource Guide and associated checklists.**
- **Verify integrity of enclosure/controlled areas from outside.**
 - **Verify recording of negative air through negative air readings required to be monitored 24 hours.**
 - **Verify air monitoring results below permissible exposure limits outside controlled area.**
- **Follow up with contractor submitted waste shipment records and clean air samples before reoccupying spaces.**

VIII) LEAD

ROICC employees are not authorized to enter contractor controlled areas where lead abatement is taking place.

Case Study:

Renovations to Building 1
& Building 215
at Portsmouth
Naval Medical Center

Types of Activities Required

- Demolition of Entire Areas (Building wings) (with Lead Based Paint surfaces)
- Removal & Disposal of Lead Containing Materials
- Chemical Removal of LBP from Building Surfaces to Remain
- Alteration Activities on Structures Painted with LBP

Demolition of Entire Areas

- Protect workers and surrounding area in accordance with 29CFR1926.62 (Exposure assessment and protection based on trigger tasks).
- Non-Hazardous disposal of debris (based on historical data).

Removal & Disposal of Lead Containing Materials

- Protect workers and surrounding area in accordance with 29CFR1926.62 (Exposure assessment and protection based on trigger tasks).
- Dispose LCM as hazardous waste, or non-hazardous based upon testing during design.

Chemical Removal of LBP from Building Surfaces to Remain

- Protect workers and surrounding area in accordance with 29CFR1926.62 (Exposure assessment and protection based on trigger tasks).
- Dispose of debris as hazardous waste.

Alteration Activities on Structures Painted with LBP

- Protect workers and surrounding area in accordance with 29CFR1926.62 (Exposure assessment and protection based on trigger tasks).
- Negligible Wastestream.

29 CFR 1926.62

LEAD EXPOSURE IN CONSTRUCTION

- “Applies to all occupational exposure to lead in all construction work in which lead, in any amount, is present in an occupationally related context.”
- Construction work is defined as work involving construction, alteration, and/or repair, including painting and decorating.

The standard requires air monitoring for an “exposure assessment”

- To determine if any employee may be exposed above the Action Level of 30 $\mu\text{g}/\text{m}^3$ as an 8-hour TWA.
- Objective data, including specific requirements for historical air monitoring, may be used to demonstrate exposures below the Action Level.

**ACTION LEVEL (AL):
30 $\mu\text{g}/\text{m}^3$ as an 8-hour TWA**

- For Requirements, see OSHA chart “Appendix C.”

**APPENDIX C
APPLICABLE PARAGRAPHS OF 1926.62**

| | For Specific Air Lead Levels | | | During Assessment of Trigger Tasks | |
|--|---|---|---|--|---|
| | > AL | | > PEL | | > 4 X PEL |
| Regardless of Level | 1-30 Days | > 30 Days | | | |
| 1926.62(d) - Exposure Assessment and Interim Protection | 1926.62(d)(4) - Monitoring Representative of Exposure for Each Exposed Employee | 1926.62(l)(1)(ii) Medical Surveillance Program | 1926.62(e) - Engineering and Work Practice Controls | 1926.62(e) - Clean Protective Clothing Daily | 1926.62(f) - Appropriate Respiratory Protection |
| 1926.62(h) Housekeeping | 1926.62(1)(1)(1)- Initial Medical Surveillance | 1926.62(1)(3)- Medical Exams and Consultation (If required) | 1926.62(f) Respiratory Protection | 1926.62(g) - Protective Clothing and Equipment | 1926.62(g)- Protective Clothing and Equipment |
| 1926.62(1)(5) - Handwashing Facilities | 1926.62(1)(2)(ii) - Follow-up Blood Sampling | | 1926.62(g) - Protective Clothing and Equipment | 1926.62.(1)(2) Change Areas | 1926.62.(1)(2) Change Areas |
| 1926.62(1)(1)(1) - Hazcom Training (and /or 1926.21 - Safety Training and Education) | 1926.62(k) - Temporary Removal Due to Elevated Blood Lead | | 1926.62(l) - Hygiene Facilities and Practices | 1926.62(1)(5) - Handwashing Facilities | 1926.62(1)(5) - Handwashing Facilities |
| | 1926.62(l)(1)(II)-(iv) - Information and Training | | 1926.62(m)- Signs | 1926.62(1)(1)(1) - Biological Monitoring | 1926.62(1)(1)(1) - Biological Monitoring |
| | | | | 1926.62(l)(1)(I)- Hazcom Training | 1926.62(l)(1)(I)- Hazcom Training |
| | | | | 1926.62(1)(2)(III) Respirator Training | 1926.62(1)(2)(III) Respirator Training |
| | | | | 1926.21 - Safety Training and Education | 1926.21 - Safety Training and Education |

PERMISSIBLE EXPOSURE LIMIT (PEL): 50 $\mu\text{g}/\text{m}^3$ AS AN 8-HOUR TWA

Requires:

- Engineering and work practice controls
- Respiratory protection
- Protective clothing
- Hygiene facilities
- Signs

WHAT IF WORK BEGINS WITH NO HISTORICAL AIR MONITORING DATA?

- OSHA has developed a list of high exposure-related operations which require interim protective measures.
- The interim protective levels include respirators, protective clothing, hygiene facilities, training, and biological monitoring.

TRIGGER TASKS

GROUP 1:

Anticipated exposures above the PEL (50 $\mu\text{g}/\text{m}^3$ TWA8), but below 500 $\mu\text{g}/\text{m}^3$:

- Manual scraping and sanding
- Manual demolition of structures
- Heat-gun applies
- Power tool cleaning with dust collection systems
- Spray painting with lead-based paint

Protective clothing, half face negative pressure respirators required prior to exposure assessment, weekly clean clothing and respirator required if results confirm exposures $<200 \mu\text{g}/\text{m}^3$.

TRIGGER TASKS

GROUP 2:

Anticipated exposures above 500 $\mu\text{g}/\text{m}^3$ TWA8, but below 2500 $\mu\text{g}/\text{m}^3$:

- Lead burning
- Using lead-containing mortar
- Power tool cleaning without dust cleaning systems
- Rivet busting
- Cleanup activities where dry expendable abrasives are used
- Movement and removal of abrasive blasting enclosures

Respirators with a PF of at least 25 required prior to exposure assessment, clean work clothing daily for all exposures $>200 \mu\text{g}/\text{m}^3$.

TRIGGER TASKS

GROUP 3:

Anticipated exposures above 2500 $\mu\text{g}/\text{m}^3$ TWA8:

- Abrasive blasting
- Welding, cutting, and burning on steel structures

Respirators with a PF of at least 50 required prior to exposure assessment (higher if air sampling indicates need), and clean work clothing daily for all exposures $>200 \mu\text{g}/\text{m}^3$.

MEDICAL REMOVAL PROGRAM

- Required when two consecutive blood tests are $\geq 50 \mu\text{g/dl}$.
- Other requirements also apply.

MEDICAL SURVEILLANCE

OCCURS IN TWO PHASES:

- Initial medical surveillance
 - Blood sampling for lead and Zinc protoporphyrin.
- Medical surveillance program
 - May include annual exams and periodic blood testing based on blood lead levels and air monitoring.

HYGIENE FACILITIES

Above the PEL and during initial exposure assessment for “Trigger Tasks”:

- Employer must provide shower if feasible and clean change and eating areas;
- Showers required before leaving workplace, as well as leaving contaminated clothing at work.

EMPLOYEE TRAINING

Required for:

- All employees exposed to lead at or above the action level, or
- Employees subject to exposure to lead compounds which may cause skin or eye irritation (such as lead arsenate or lead oxide).

EMPLOYEE TRAINING

Includes:

- Content of standard
- Operations involved with potential for exposures above the Action Level
- Respirators
- Medical surveillance programs
- Engineering controls & safe work practices
- Compliance plan in effect
- Access to all records dealing with exposures