Lead Monitoring / Removal

1.0. INTRODUCTION

The Occupational Safety and Health Administration (OSHA) adopted standards which regulate occupational exposures to lead in general industries. Since that time, OSHA has reduced the Permissible Exposure Limit and tightened the occupational standards by requiring improved engineering and work practices. In 1993, OSHA promulgated the Lead Exposure in Construction final rule (29 CFR §1926.62). Cal/OSHA has implemented a similar standard located in the California Code of Regulations Title 8, §1532.1.

2.0 PURPOSE

The purpose of this program is to reduce occupational and environmental exposure to lead.

3.0 RESPONSIBILITIES

3.1 Facilities Management

- Develop work procedures where there is a potential of disturbing lead containing materials.
- Assist EH&S with identifying, locating and maintaining lead based construction materials campus-wide.
- Ensure that Facilities Management personnel are notified of the presence of lead or lead-based materials.
- Assist EH&S in the collection of paint chip samples for laboratory analysis. Perform surface testing of potential lead based paint.
- Ensure that all construction and maintenance work involving lead or lead-based materials managed by Facilities Management is performed in accordance with current guidelines.

Ensure all lead certified personnel maintain their certification in conjunction with EH&S.

3.2 Environmental Health and Safety (EH&S)

- Provide technical assistance to Facilities Management regarding specification development, evaluation of exposure potential of abatement projects, and monitoring activities before, during and after removal and maintenance projects.
- Perform personal and environmental air sampling during abatement projects.
- Maintain an inventory of all known lead and lead-based material locations.
- Inspect all phases of abatement projects.
- Provide hazard communication and PPE training to workers who may be occupationally exposed to lead.
- Coordinate medical surveillance of workers exposed to lead.

Assist contractors in meeting CSUS's Lead Management program.

3.3 Design and Construction

Consult with EH&S on projects requiring removal or demolition of potential lead containing building materials.

3.4 Lead Certified Personnel

- Identify construction and maintenance activities that may generate lead dust.
- Notify supervisors and/or EH&S prior to the start of work on suspected lead containing materials.
- Wear personal protective equipment and clothing when required.
- Follow approved lead abatement/management practices.

4.0 LEAD MANAGEMENT PROGRAM

4.1 Personal Exposure Assessment

The determination of employee exposure to lead or lead-based materials shall be made during lead abatement/management work. Personal exposure samples shall be collected indicative of a full eight hour day. Until an initial assessment has been performed for the identified job task, involved personnel shall presume exposures will exceed exposure levels (OSHA PEL of 50 µg/m3). EH&S will perform initial exposure assessments and maintain exposure records.

4.2 Reduction of Lead Exposure

Various methods are available to maintain lead personal exposure levels below the OSHA PEL of 50 m g/m3. Respiratory protection will be used to reduce employee exposure when alternative controls cannot be implemented.

Mechanical ventilation may be used as a method to control lead exposure. The ventilation will be evaluated for its effectiveness in reducing exposure. HEPA filtered systems are recommended.

Administrative controls shall be utilized to reduce employee exposures and include job and personnel rotation if necessary.

Respiratory Protection shall be provided by the employer whenever exposures are anticipated to exceed the PEL of 50 µg/m3. Respirators must be approved and offer protection against lead dust, fumes and mist and may include:

- half mask air purifying respirator with HEPA (high efficiency particulate air) cartridges
- hood or helmet PAPR (powered air purifying respirator) with HEPA cartridges
- full face PAPR - HEPA cartridges

The CSUS Respiratory Protection Program provides additional information on the care, handling and training of personnel using respirators.

Personal protective equipment - shall be provided in addition to respiratory protection when the possibility of lead exposure may cause skin or eye irritation.

Personal Protective Equipment (PPE) shall include:

- disposable coveralls with booties and hats
- gloves
- face shields or vented goggles or other appropriate PPE Housekeeping practices - should assure that all surfaces shall be lead free. Wherever possible, HEPA vacuums or other methods will be utilized to prevent the aerosolization of lead dust. Shoveling, dry or wet sweeping and brushing are not recommended.

Hygiene Practices: - The consumption of food, beverages or tobacco is prohibited in areas where lead exposures may occur.
Medical removal protection: - temporary removal of employees shall occur if blood lead levels exceed 50 mg/dl and where a "final medical determination" indicates an increased risk of health impairment to occupational lead exposure.

4.3 Training

A Training Program is available to employee's who are exposed to lead levels at or above the action level on any day or to lead compounds which may cause skin or eye irritation. EH&S provides initially before the start of a job and at least annually thereafter. The Training includes but is not limited to:

- The content of the standard, its appendices and this program. A copy of the standard and appendices is available in the EH&S office for all affected employees.
- The specific nature of operations which could result in exposure to lead above the action level.
- Purpose, selection, fitting and limitations of respiratory protection and other personal protective equipment.
- Purpose and description of medical surveillance program including information concerning adverse health effects associated with extensive exposure to lead (particular attention to the reproductive hazards to both men and women)
- Engineering controls and work practices.
- Instructions that chelating agents should not be used routinely or as prophylaxis and only under the direction of a licensed physician.
- Employee's right to access records pursuant to 8 CCR, 3204.

In addition to the training required under 8 CCR, 1532.1 (1)(2), CSUS sends a limited number of EH&S and Facilities Management Personal to formal **Lead-Related Construction Training** through a California Department of Health Services (DHS) approved training provider. These personal maintain current training as Lead-Related Construction Building Inspectors, Risk Assessors, Project Supervisors/Monitors and Project Designers. CSUS encourages personal with advanced training to obtain **Interim DHS Certification.**

An individual with Lead-Related Construction Supervisor/Monitor training may act as the **Competent Person** at the work site. The competent person is capable of identifying existing and predictable lead hazards at the work site, and has authorization to take prompt corrective measures to eliminate any such hazards. A competent person must be in supervision of every work site where lead-related construction work is occurring, and

must take frequent and regular inspections of the job site, materials and equipment to confirm regulatory compliance and safety work practices. Work may be interrupted or discontinued by the competent person if proper procedures are not being followed.

All employees that may come in contact with lead containing materials shall receive Hazard Communication training. This training will include information pertaining to lead exposure.

4.5 Record keeping

CSUS shall maintain employee exposure records for at least thirty years. The records shall include:

Exposure Assessment - all monitoring and data used in conducting an assessment (i.e. date/s, number, duration, tasks, location, results, of sampling procedures). In addition, the type of respiratory protective device worn and environmental variables affecting measurements.

Medical Surveillance - records shall contain employee medical history, medical examination results, and results of biological monitoring. Records will be maintained at the facility conducting the medical monitoring.

Medical Removal - all information pertaining to removal of an employee from a current exposure to lead. This information will include, date of each occasion the employee was removed as well as the corresponding date the employee returned, the cause of removal and statements explaining how the removal was handled.

Objective Data for Monitoring Exemptions - information demonstrating a particular product, material, procedure, operation or activity where release of lead dust or fumes below the action level. Objective data can be obtained from industry wide studies or exposure assessments.

All records shall be made available upon request to the affected employees, former employees and their designated representatives.

4.6 Campus Lead Survey

Environmental Health and Safety will maintain a database identifying all buildings constructed with lead based materials. This database shall serve as a reference tool for evaluating proposed construction and maintenance projects that involve the disturbance of painted surfaces. This database is available to the entire campus.

4.7 Waste Management

Waste generated from demolition, surface preparations, and abatement operations that contain lead based paint shall be categorized by the physical characteristic of the waste. Generally, the ratio of lead based paint to the entire weight of should be considered when classifying the waste. However, if the paint is physically separated from the substrate during demolition or preparation work, it should be evaluated independently. The following table offers examples of waste types and proper management techniques.

Debris Type	Disposal Method
Paint chips/dust	Cal/EPA TTLC*; hazardous if > 1000 mg/kg; arrange for hazardous disposal through EH&S
Demolition debris w/lead based paint	Cal/EPA TTLC*, if minimal amount of substrate; significant substrate, usually non-hazardous; can dispose of as regular waste.
Intact structural items	Non-hazardous if paint is not peeling, chipped, or otherwise disturbed; dispose as regular waste

* TTLC - Total Threshold Limit Concentration