

1.0 Purpose

The purpose of this plan is to summarize the mandated program for the control of lead exposures to university personnel in accordance with the requirements of the https://www.dir.ca.gov/title8/1532_1.html

2.0 Background

Lead can be present in a wide range of materials including paints, weights, solder, plates, bricks, containers, and sheeting. In a university setting, these items can be used for radiation shielding, soldering operations and metals research activities.

The elements of this program involve requirements, responsibilities and cooperation between Environmental, Health and Safety (EHS) and Facilities Management (FM) for all elements of the plan not limited to: exposure monitoring, compliance methods, respiratory protection, protective work clothing and equipment, housekeeping, hygiene practices, medical surveillance, medical removal protection, employee training and the communication of hazards to be eliminated.

3.0 Responsibilities

3.1 Facilities Management

- 3.1.1 Ensuring that lead material in Facilities Management (FM) areas are identified and properly labeled.
- 3.1.2 Ensuring FM employees are aware of any lead material they may be handling.
- 3.1.3 Ensuring FM employees who have the potential to handle lead are properly trained and familiar with the requirements of https://www.dir.ca.gov/title8/1532_1.html
- 3.1.4 Ensuring FM employees utilize available engineering controls, follow proper work practices, and properly wear adequate personal protective equipment (PPE) during the course of work.
- 3.1.5 Report suspected exposures to EH&S if any FM employee reports symptoms of possible over-exposure (e.g. – pain or tingling in the hands and/or feet, abdominal pain, loss of appetite, and/or sudden memory loss).
- 3.1.6 Ensure all personnel who perform lead-related paint work, maintain their certification in conjunction with EH&S.

3.2 Project Managers/Supervisors

- 3.2.1 Ensuring that contractors whose work may involve disturbing or removing lead or lead based materials on Sacramento State property are fully apprised of the conditions before such work is initiated. It is advised that an Environmental Consultant with California Department of Public Health (CDPH) credentials as a certified Inspector/Assessor and Project Monitor oversee3s lead abatement projects on campus.

3.3 Environmental Health and Safety (EH&S)

- 3.3.1 Providing in-person or computer based training to CSUS employees in compliance with California Code of Regulations Title 8, § 5198 requirements.
- 3.3.2 Developing, implementing, and annually reviewing the CSUS Lead Exposure Management Plan.
- 3.3.3 Conducting exposure assessments or working with a properly certified third-party consultant to conduct exposure assessments.
- 3.3.4 Maintaining an inventory of all identified lead and lead-based materials locations.
- 3.3.5 Providing technical assistance to FM evaluating potential exposure of activities involving lead or lead-based materials.
- 3.3.6 Receiving, recording, and evaluating laboratory results related to airborne exposure.
- 3.3.7 Providing training and consultation on the use of personal protective equipment (PPE), including the use of respirators.
- 3.3.8 Coordinating the medical surveillance of workers exposed to lead at or above the Action Level of 2 micrograms per cubic meter of air (2 µg/m³) calculated as an 8-hour time weighted average (TWA).

3.4 Design and Construction

- 3.4.1 Consult with EH&S on projects requiring removal or demolition of potential lead.

3.5 Lead Certified Personnel

- 3.5.1 EHS staff conducting lead sampling will be twill maintain at least one person trained on staff. Ensuring that contractors whose work may involve disturbing or removing lead or lead based materials on Sacramento State property are fully apprised of the conditions before such work is initiated. It is advised that an Environmental Consultant with California Department of Public Health (CDPH) credentials as a certified Inspector/Assessor and Project Monitor oversees lead abatement projects on campus.

3.6 Employees are responsible for:

- 3.6.1 Recognizing the job activities that may potentially release airborne lead.
- 3.6.2 Properly wearing personal protective equipment and clothing.
- 3.6.3 Attending and completing assigned training.
- 3.6.4 Knowing the potential hazards associated with exposure to lead and lead-based materials.
- 3.6.5 Notifying their supervisors and/or EH&S of the presence of suspected lead containing materials.

4.0 Compliance Requirements

4.1 Exposure Assessment

4.1.1 The determination of exposure to lead or lead-based materials to employees shall be made each at representative job task. Until an initial assessment has been performed for the identified job task, involved personnel shall presume exposures will exceed the action level ($2 \mu\text{g}/\text{m}^3$, 8-hour day TWA). EH&S, or a certified third-party, will perform initial exposure assessments. EH&S will maintain exposure records.

4.2 Reduction of Lead Exposure

4.2.1 The Sacramento State Lead Exposure Management Plan shall meet the requirements for a written plan as indicated in 8 CCR 5198(e)(B). The Plan shall include, but not limited to the following information:

- Description of activity in which lead could be emitted;
- Description of planned compliance methodology;
- Information of the technology considered in meeting the PEL;
- Air monitoring data which documents the source of lead emissions;
- Details of plan implementation;
- Administrative controls used to prevent exposure (e.g. – job rotation schedule);
- Work practices such as PPE, housekeeping, worker hygiene, etc; and
- Other relevant information.

4.2.2 Mechanical ventilation may be used as a method to control lead exposure. High Efficiency Particulate Air (HEPA) filtered systems are recommended.

4.2.3 Administrative controls shall be utilized to reduce employee exposures. These controls may include:

- Job rotation and evaluation (duration and exposure levels for each job, each employee); and
- Program assessment and good work practices.

4.2.4 Respiratory Protection shall be provided by the employer whenever the worker's exposure is expected to exceed the PEL ($10 \text{ micrograms}/\text{m}^3$), in situations where work practices and engineering controls are not sufficient to reduce exposures, whenever an employee requests a respirator, and during exposure assessment.

- a. Respirators approved for lead aerosol protection include, but are not limited to, respirators approved by MSHA and NIOSH for protection against lead dust, fume and mist:
- Half mask air purifying – HEPA (high efficiency particulate air) cartridges;
 - Full mask air purifying – HEPA (high efficiency particulate air) cartridges;

- Hood or helmet PAPR (powered air purifying respirator) with HEPA cartridges;
- Full face PAPR – HEPA cartridges; and
- Supplied air or SCBA in demand (negative pressure mode).

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

- 4.2.5 Personal Protective Equipment (PPE) and clothing will be provided to the employees, without regard to the use of respirators, when exposure to lead may cause skin or eye irritation (e.g. lead azide or lead arsenate) or is greater than the PEL of 10 micrograms/m³ (8-hr TWA).

Personal Protective Equipment (PPE) shall include but is not limited to:

- Disposable or similar full-body coveralls with foot and head cover;
- Gloves; and
- Face shields or vented goggles or other appropriate PPE as required by Cal/OSHA.

Personal protective work clothing and equipment must be worn and maintained according to [8 CCR 5198\(g\)](#), which also specifies labeling requirements for lead contaminated personnel protective work clothing and equipment.

- 4.2.6 Housekeeping practices should assure that all surfaces shall be maintained as free as practicable from accumulations of lead. Wherever possible utilize HEPA vacuums or other methods to prevent the aerosolization of lead dust. Shoveling, dry or wet sweeping/brushing is not recommended. Floors and other surfaces where lead accumulates may not be cleaned by the use of compressed air.
- 4.2.7 Hygiene Facilities and Practices: The consumption of food, beverages, or tobacco is prohibited in areas where employees may be exposed to lead. Where necessary, the University shall provide changing areas and shower facilities, in accordance with 8 CCR 5198(i), for employees whose exposure to lead is above the PEL. Regardless of exposure level, employees are required to wash their hands and face prior to eating, drinking, smoking or applying cosmetics.
- 4.2.8 Medical Surveillance: The Sacramento State Medical Surveillance Program is available at no cost to employees who are occupationally exposed on any day to lead at or above the Action Level (2 µg/m³, 8-hr TWA) or who are exposed at or above the action level for more than thirty days in any consecutive twelve (12) months.

4.3 Training

- 4.3.1 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.

- 4.3.2 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.

4.4 Record keeping

- 4.4.1 Sacramento State EH&S 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.
 - **Medical Surveillance** - records shall contain employee medical history, medical examination results, and results of blood lead testing. 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.

4.5 Campus Lead Survey

- 4.5.1 EH&S will maintain a database of identified areas containing lead. This database shall serve as a reference tool for evaluating proposed construction and maintenance projects that involve the disturbance of painted surfaces. Information regarding historical data can be obtained by contacting EH&S.

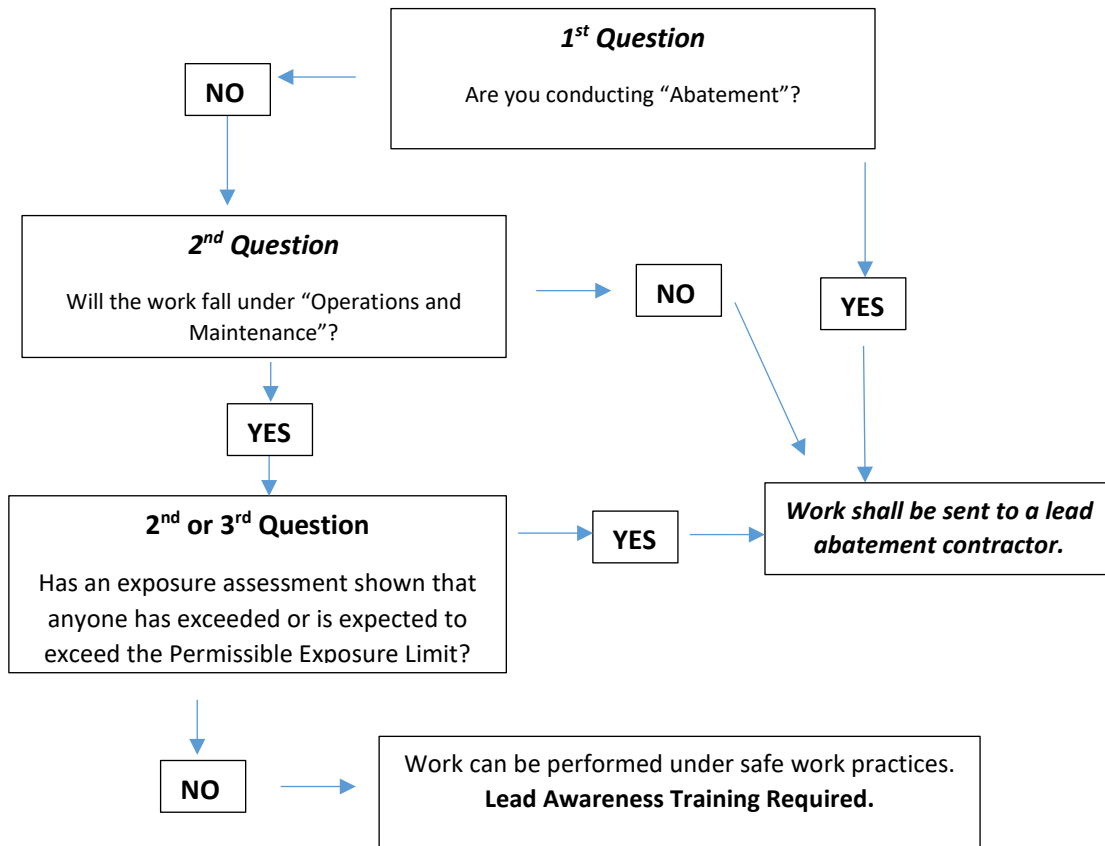
5.0 Definitions

- 5.1 Action Level:** (as defined in California Code of Regulations, Title 8 § 1532.1 Lead in Construction) employee exposure, without regard to the use of respirators, to an airborne concentration of lead of 2 micrograms per cubic meter of air ($2 \mu\text{g}/\text{m}^3$) calculated as an 8-hour time-weighted average (TWA).
- 5.2 Operations and Maintenance:** The performance of work done to maintain the day-to-day operations of the campus. Does not disturb more than 6 square feet of interior surfaces or more than 20 square feet of exterior surfaces over a 30-day period. O&M work involves exposure limits below the Lead Action Level.
- 5.3 Abatement:** any measure or set of measures designed to permanently eliminate lead-based paint hazards.

- 5.4 Exposure Assessment: An initial determination of whether any employee's exposure to lead exceeds the action level.
- 5.5 Lead-Based Paint: (as defined in CCR Title 17 Div. 1 Chap. 8. § 35033) Coatings that contain greater than or equal to 0.5 % or 1.0 milligrams per square centimeter by weight of lead.
- 5.6 Trigger Tasks: Examples of tasks that would require annual exposure assessments include, but are not limited to: Abrasive blasting, Welding, Cutting, Torch Burning, and Sanding. These can be found in CCR Title 8 § 1532.1 (d)(2)(D).

6.0 Work Flow – Operations and Maintenance

- 6.1 Facilities Management has primary responsibility for managing lead exposure in the workplace. The flow chart* and information that follows is the primary decision process that Facilities Maintenance follow prior to initiating Operations and Maintenance (O&M).
 - 6.1.1 EHS receives request for lead content analysis.
 - 6.1.2 Quantifiable lead analysis taken.
 - 6.1.3 Operations and Maintenance work involving Lead-Based paint will be evaluated for feasibility on a case-by-case basis.



*Adapted from CALINC Training, LLC. Lead IA Training Pg 70.

7.0 Work Flow – Renovation, Repair, and Painting

- 7.1** The flow chart and information that follows is the primary decision process that Facilities Maintenance follow prior to initiating any renovation, repair, or painting project (RRP).
- 7.1.1 EHS receives request for lead content analysis.
 - 7.1.2 Quantifiable lead analysis taken.
 - 7.1.3 Results of an initial assessment that demonstrate surface coating or material that contain lead at concentrations of less than 0.06% lead dry weight (600ppm) is sufficient to establish a negative determination. Work may be conducted by CSUS employees using safe work practices. Contact EH&S with any questions in regards to safe work practices for a specific job/project/task.
 - 7.1.4 Results indicating 0.06-0.49% lead content require personal exposure monitoring during the project assigned to determine that employee exposures do not exceed Cal/OSHA Permissible exposure limits. Upon receipt of a negative exposure assessment for a specific process (i.e. trigger tasks) this shall be in place for one calendar year from the time of the assessment.
 - 7.1.5 Results greater than 0.5% lead content is considered Lead-Based Paint and work will be contracted out to a third-party contractor. CSUS workers shall not conduct RRP work on projects where lead content is greater than 0.5%.

*Lead Management
Renovation, Repair and Painting Process Flow*

