

**Hampshire College**  
**Lead Paint Management Policy**  
**December 2011**

**Purpose**

Hampshire College has developed a policy to protect employees and the community from the hazards of lead-based paint. For all buildings built before 1978, Hampshire College will assume that lead paint is present, unless an inspection report or sample results prove otherwise. The main objective of this policy is to ensure that employees are aware of the hazards and use work practices that comply with the OSHA Lead in Construction Standard, 29 CFR 1926.62 or, when applicable, the EPA/MA Renovation, Repair and Painting (RRP) rule when performing tasks that have the potential to disturb lead-based paint. Outside contractors are responsible for complying with these regulations when applicable, as well as MA DPH Lead Poisoning Prevention and Control (105 CMR 460.000) and MA DOS Deleading regulations (454 CMR 22.00) when performing lead abatement.

**Background**

Lead is a heavy, soft metal that was added to paint to make it last longer, resist moisture, speed drying and adhere to surfaces better. According to the Occupational Safety and Health Administration (OSHA), "lead means metallic lead, all inorganic lead compounds, and organic lead soaps. Excluded from this definition are all other organic lead compounds." Lead paint is toxic and was banned for residential use in 1978. The most common routes of exposure to lead are inhalation and ingestion. The adverse health effects of lead include damage to the circulatory system, kidneys, nervous system, bone tissue, growth problems, and can lead to death.

**Commitment**

Hampshire College is committed to ensuring the safety of employees and protecting employees and the community from the hazards of lead paint. Hampshire College employees are expected and required to follow the safe work practices outlined in this policy, including donning the proper PPE, when required.

**Facilities and Grounds Trades Involved**

- Painting
- Carpentry
- Any other Facilities & Grounds trade or any outside contractor that is involved with painting, sanding, window or component removal and installation, etc. that has the potential to disturb lead paint.

**Work Area Assessment**

All work areas where there is the potential for lead paint or other lead containing materials based on the age of the area and building materials, will be presumed to be positive or tested to determine if lead is present. For large projects, a lead survey or inspection will be done by a certified environmental firm as part of the overall hazardous materials survey done prior to construction activities. For small projects, trained College employees can test surfaces to be disturbed with EPA-approved lead test kits.

## Exposure Level

OSHA has established a permissible exposure limit (PEL) of 50 µg/m<sup>3</sup> (50 micrograms of lead per cubic meter of air) averaged over an eight-hour period. The established action level is 30 µg/m<sup>3</sup>, and is the level at which compliance with the OSHA 29 CFR 1926.62 Lead in Construction Standard is required. The following table indicates the anticipated exposure levels of some common construction activities. Trained Hampshire College employees are only authorized to perform tasks listed in the left column of the table. Hampshire College employees are not authorized to perform tasks for which lead exposure is presumed to be greater than 500 µg/m<sup>3</sup> because this level of exposure would exceed the protection factor of a half-face negative pressure air-purifying respirator. Controls will be implemented to ensure that employees are not exposed to lead at this level. Wet methods must be used for all demolition, scraping, and sanding operations involving lead paint.

### LEAD-RELATED CONSTRUCTION TASKS -- PRESUMED 8-HOUR TWA EXPOSURE LEVELS

> 50 to 500 µg/m <sup>3</sup>	> 500 µg/m <sup>3</sup> to 2,500 µg/m <sup>3</sup>	> 2,500 µg/m <sup>3</sup>
Manual demolition	Using lead-containing mortar	Abrasive blasting
Dry manual scraping	Lead burning	Welding
Dry manual sanding	Rivet busting	Torch cutting
Heat gun use	Power tool cleaning without dust collection systems	Torch burning
Power tool cleaning with dust collection systems	Cleanup of dry expendable abrasive blasting jobs	
Spray painting with lead paint	Abrasive blasting enclosure movement and removal	

Source: OSHA Technical Manual Section V: Chapter 3 - CONTROLLING LEAD EXPOSURES IN THE CONSTRUCTION INDUSTRY: ENGINEERING AND WORK PRACTICE CONTROLS

## Exposure Assessment

To confirm that employees will not be exposed to the 8-hour time weighted average action level of 30 µg/m<sup>3</sup>, personal air monitoring will be conducted for operations lasting more than two hours that have the potential to disturb lead paint. These personal air samples will be analyzed by a certified laboratory to determine if any employee may be exposed to lead at or above the action level. Samples will be collected in such a way that they are representative of a full shift and include at least one sample for each job classification in each work area either for each shift or for the shift with the highest exposure level.

For these tasks lasting two or more hours, until we have documentation that employee exposure is not above the action level, employees are required to wear personal protective equipment (PPE). Employees must wear half or full-face respirators. OSHA requires that coveralls or similar full-body work clothing, gloves, head covering, and disposable shoe coverlets be provided in a clean and dry condition at least weekly. OSHA requires that this PPE be provided daily when employees are exposed to lead at levels over 200 µg/m<sup>3</sup>. Hampshire College will exceed OSHA's requirement by providing this PPE daily to all employees performing tasks that disturb lead, or upon request from the employee.

## **Negative Initial Determination**

When sampling results indicate that employees are not exposed to airborne lead concentrations at or above the action level, a written record will be made. This record will include the date of the determination, location within the worksite, the name and employee identification number of each employee monitored, any information, observations or calculations which would indicate employee exposure to lead, any previous measurements of airborne lead and any employee symptoms which may be attributable to exposure to lead.

Monitoring results will be provided to employees no later than five working days after receipt, either by posting in a location that is accessible to the affected employees or by giving each individual a copy. As long as sampling data was taken within the past twelve months, monitoring requirements of the OSHA standard are fulfilled, except as noted in this policy's section "Additional Exposure Assessments." This record will be written by and kept on file at the Office of Environmental Health and Safety.

## **Positive Initial Determination**

When sampling results indicate that employee exposure is at or above the action level, but at or below the PEL, air monitoring will be conducted at least every six months. Monitoring will continue until at least two consecutive measurements, taken at least seven days apart, indicate exposure is below the action level. At that time, monitoring will be discontinued, except as noted in the section "Additional Exposure Assessments" of this policy. Results will be provided to employees no later than five working days after receipt, either by posting or giving each individual a copy.

When sampling results indicate that employee exposure is above the PEL, monitoring will be conducted at least every three months. Monitoring will continue until at least two consecutive measurements, taken at least seven days apart, indicate exposure is below the PEL, but at or above action level. At this time, monitoring will be conducted at least every six months until at least two consecutive measurements, taken at least seven days apart, indicate exposure is below the action level. At that time, monitoring will be discontinued, except as noted in the section "Additional Exposure Assessments" of this policy. Results will be provided to employees no later than five working days after receipt, either by posting or giving each individual a copy. When exposure is at or above the PEL, a statement will be included on the posting or individual's copy notifying them that exposure was at or above the PEL and of the corrective action to be taken to reduce exposure.

Since most college operations do not normally last a duration of six months or longer, the Facilities & Grounds foreman and Office of Environmental Health and Safety will collaborate to determine sampling schedules to ensure that we have current data that is representative of specific work activities. These records will be kept on file at the Office of Environmental Health and Safety.

## **Additional Exposure Assessments**

Whenever there is a change of equipment, process, control, personnel or a new task has been initiated that may result in additional employees being exposed to lead at or above the action level or may result in employees already exposed at or above the action level being exposed above the PEL, additional monitoring will be conducted.

## **Residential, School and Child Care Facility Requirements**

The EPA Renovation, Repair and Painting (RRP) rule, effective 4/22/10, requires that contractors performing renovation, repair and painting projects that disturb lead-based paint in homes, child-occupied facilities (includes day care centers and schools occupied by children under 6) built before 1978 must be certified and must follow specific work practices to prevent lead contamination. Effective July 9, 2010 the Massachusetts Division of Occupational Safety was authorized by EPA to administer this standard, with corresponding regulatory requirements detailed in 454 CMR 22.00.

At Hampshire College, The Children's Center was built after 1978 and student housing falls under an EPA exemption from the rule. Other residential properties and staff apartments are subject to the rule. For those occupancies, unless the repairs meet the definition of a minor repair, the work must be performed by Hampshire College certified Lead-Safe Renovator-Supervisors, or a licensed lead abatement or certified lead-safe renovation contractor, unless testing determines lead is not present.

For properties at which the College must perform lead abatement, (any residential premises where a child under the age of 6 resides), a licensed lead abatement contractor will be hired and an independent licensed Lead Inspector will perform dust wipes and must issue a "Letter of Full Compliance" prior to occupancy. The contractor is responsible for tenant and State notifications and any other requirements of applicable regulations.

The College has identified the following properties maintained by Facilities & Grounds for which the RRP rule would apply:

- 15 Middle Street, Amherst – President's House
- 711 West Street, Amherst – Ezbicki House (Faculty Residence)
- 731 West Street, Amherst – Kucinski House (Farm Manager's Residence)
- 793 West Street, Amherst – Thorpe House (Farm Center)
- 1095 West Street, Amherst – Ives' House
- 275 Bay Road, Hadley – Krug House

The following minor repairs or maintenance activities are not covered by the rule:

- activities that disturb 6 square feet or less of paint per room inside
- activities that disturb 20 square feet or less on the exterior of a home or building

Minor repairs and maintenance activities do not include window replacement and projects involving demolition or prohibited practices (burning or torching, sanding, grinding or other high speed operations).

## **Requirements for Work Performed by College Employees**

- Prior to the start of the work, the Foreman or competent person will arrange for determination of the presence of lead, either by testing with LeadCheck swabs, sending paint chips to a qualified laboratory or hiring a Lead Inspector. All buildings constructed and/or painted

components installed prior to 1978 will be assumed to be positive for lead unless proven otherwise.

- Evaluate the project to determine the appropriate work set up and personal protective equipment (PPE), identify safety hazards and proper work practices.
- No one under the age of 18 may disturb, (scrape, sand, etc.) lead paint.
- Keep all unauthorized personnel out of the work area.
- When required, wear a NIOSH-approved respirator with HEPA filters. Disposable dust masks are not sufficient. Note: Individuals wearing respirators must be clean-shaven, and must be trained, have medical clearance and pass a respirator fit-test, in compliance with the College Respiratory Protection Program.
- Wear protective clothing, such as full-body coveralls, gloves, and goggles or face shields.
- GFCIs are required for all power equipment.
- Only HEPA-filtered vacuums are permitted.
- Use wet methods, (i.e. misting), to prevent dust generation.
- When using wet methods, do not create run-off and be aware of slippery conditions and electrical hazards.
- Do not use power tools, (grinders, sanders, etc.), unless they are equipped with HEPA-vacuum attachments.
- Never eat, drink, or smoke in the work area.
- Always wash your hands and face before you eat, drink, or smoke.
- Remove PPE and dispose of it at the work site to avoid tracking dust to other areas or your home. .
- Follow all requirements listed in this policy and complete the Hampshire College Lead-Safe Work checklist (see Appendix A)

### **Indoor Work Practices (when disturbing more than 6 SF)**

- Work on only one room at a time.
- Clean and remove all items that can be moved out of the work area.
- Clean and cover immovable items and floors with plastic and seal with tape.
- If applicable, shut down HVAC system, and tape plastic over the vents and grates.
- Seal off the work area by covering windows and doors with plastic sheets.
- Clean the work area completely at the end of each day and vacuum all surfaces with a HEPA-vacuum.
- Decontaminate all tools and equipment before removing them from the work area.

- Plastic sheeting and disposable tarps should be misted, folded inward, put into plastic bags and sealed with tape.
- When the job is completely done, clean the entire work area by HEPA-vacuuming, then wet-wiping, and then HEPA-vacuuming again.
- Mop buckets must be emptied into toilets or utility sinks, only. Do not empty buckets of wash water into public sinks or floor drains.
- Wash your hands.

### **Outdoor Work Practices (when disturbing more than 20 SF)**

- Close all doors and windows within 20 feet of the work area.
- Pre-clean the ground, (i.e. remove visible paint chips/debris), then cover with a tarp/drop cloth and secure it to the building with tape or staples to catch any falling dust and debris. Tarps must extend a minimum of 10 feet out for a 1-story building and must extend an additional 5 feet out per story or as far as feasible to sufficiently catch falling paint chips and debris.
- Cover nearby plants, sandboxes, play equipment, outdoor furniture, etc.
- Do not work on windy days.
- Follow all ladder safety procedures and check for power lines and other electrical hazards.
- Call Dig Safe (1-888-DIG SAFE) at least 72 hours prior to any digging and excavation work. Indicate the digging site with spray paint or other marker prior to contacting Dig Safe.
- Clean the work area completely at the end of each day and vacuum all surfaces, (window sills, stairs, tarps, etc.), with a HEPA vacuum.
- Decontaminate all tools and equipment before removing them from the work area.
- At the end of each workday, and when the job is completely done, clean the work area by HEPA-vacuuming all visible paint chips and debris.
- Re-useable tarps should be folded inward and stored in plastic, taped bags.
- Wash your hands.

### **Waste Management**

All lead paint chips must be collected in a DOT-approved container. The container should be labeled with a hazardous waste label that should list “lead paint chips” as the waste name, “lead” as the ingredient, and “toxic” as the hazard.

In non-residential areas, lead paint debris, such as architectural building components, (i.e. doors, window frames, painted wood, etc.), dust and sludge must be analyzed by a certified laboratory using Toxicity Characteristic Leaching Procedure (TCLP). If the results from a representative sample of the waste stream exceed the regulatory limit of 5 mg/L of lead in the waste leachate then the waste must be managed and disposed of as hazardous.

Waste generated from work in residential areas should be collected in plastic bags and can be disposed of as household trash in a municipal solid waste landfill or municipal solid waste combustor, in accordance with Massachusetts DEP regulation 310 CMR 30.104 and the USEPA memorandum "Regulatory Status of Waste Generated by Contractors and Residents from Lead-Based Paint Activities Conducted in Households."

## **Respirators**

Respirators will be provided upon employee request, provided that the employee is, or becomes, an authorized respirator user under the Hampshire College Respirator Program. Respirators are required when an employee's exposure to lead is at or exceeds the PEL or when performing tasks for which we do not have a negative exposure assessment. Hampshire College employees are not anticipated to perform tasks that will exceed the PEL; however, in the event that this becomes necessary, respirators will be required in accordance with the OSHA standard. Additionally, a written compliance program would have to be implemented, reviewed and updated at least every six months.

## **Medical Questionnaire**

Every employee in the respirator program will complete a medical questionnaire prior to wearing a respirator and annually thereafter. The questionnaire will be reviewed by a physician or other licensed health care professional (PLHCP). If required by the PLHCP, a medical exam will be given. Additionally, a medical exam will be provided if the employee has difficulty breathing during fit testing or while using the respirator.

## **Medical Surveillance**

If an employee is exposed to lead at the action level, 30 µg/m<sup>3</sup>, on any one day, initial medical surveillance, consisting of biological monitoring in the form of blood sampling and analysis for lead and zinc protoporphyrin (ZPP) levels, will be made available. If an employee's exposure to airborne lead is at the action level for more than 30 days in any consecutive 12 months, then a medical surveillance program will be implemented according to the following schedule:

- At least every two months for the first six months, and every six months thereafter.
- At least every two months for employees whose last blood sampling and analysis indicated a blood lead level at or above 40 µg/dl (micrograms of lead per deciliter of blood).
- At least monthly when an employee is removed from exposure due to an elevated lead level. (Employees must be medically removed when the blood lead level is 50 µg/dl).

Additionally, for employees in the medical surveillance program, a medical exam and consultation will be made immediately available if the employee:

- Develops signs or symptoms associated with lead-related disease.
- Demonstrates difficulty in breathing during respirator use or a fit-test.
- Wants medical advice concerning effects of past or current lead exposure.
- Is under medical removal and has a medically appropriate need.

## **Training**

All employees that perform tasks that have potential to disturb lead must initially complete the Hampshire College Lead Paint Safety Training that covers the OSHA Lead in Construction Standard. This training must be repeated annually for any employees subject to lead exposure at/above the action level on any day. Employees performing work, other than minor repairs, in pre-1978 homes or child-occupied facilities must complete the initial 8-hour MA/EPA Lead-Safe Renovator-Supervisor course and attend a 4-hour refresher course every 5 years.

## **Records**

Records of lead paint abatements, lead-safe renovations, inspections, testing and sampling, Letters of Compliance, employee training records and air monitoring data will be kept by the Director of Environmental Health and Safety.

## **Program Review**

This program will be reviewed periodically by Facilities & Grounds and the Office of Environmental Health and Safety to ensure compliance with OSHA, EPA, MA and any other applicable regulations. Additionally, projects performed throughout the year can create the opportunity to evaluate our work practices to determine if procedures outlined in this policy are adhered to and if there is new information or guidelines that can be implemented to improve this policy and our overall environmental and safety efforts.

EH&S 12/2011



## Hampshire College Lead-Safe Work Checklist - Appendix A

Date(s) of Project: \_\_\_\_\_

Project Location/Description: \_\_\_\_\_

Employee(s) Assigned to Project: \_\_\_\_\_

**Check off to verify the following or write “N/A,” if not applicable:**

### PROJECT TYPE:

- MA/EPA Renovation, Repair and Paining Rule (RRP) applies: work in pre-1978 housing or child-occupied facilities that involves window replacement and/or disturbance of more than 6 SF on interior surfaces, or 20 SF on exterior surfaces
- OSHA Lead in Construction Standard applies: work where lead paint is present, but the work site is not pre-1978 housing or a child occupied facility; Or work is classified as minor repair and maintenance activity (less than 6 SF on interior surfaces or less than 20 SF on exterior surfaces per project) in pre-1978 housing and child-occupied facilities

### TRAINING:

- All employees have attended Hampshire College in-house Lead Paint Safety training (applies to all projects)
- When the RRP rule applies, only personnel trained in *MA/EPA Renovation, Repair and Painting (RRP) Rule* can perform the work. Copies of training certificates must be on site

### NOTIFICATION:

- Facilities & Grounds has developed a work plan and received approval from EH&S
- When the RRP rule applies, the EPA pamphlet “Renovate Right” must be distributed to all occupants. We must have their acknowledgement of receipt signatures on file, or we must document our delivery attempt. For work in common areas, the pamphlet can be posted in a central location, provided that all occupants are notified of the location of the posting

### PRE-WORK SET UP:

- Post warning signs at all approaches to work area
- Use caution tape or other barrier to establish a 20-foot perimeter around exterior work area
- Hand-wash station set up with disposable pre-moistened hand wipes

- Personal air monitoring equipment and Personal Air Sampling Worksheet on site and ready for use
- Personal Protective Equipment (PPE) consisting of disposable coveralls with hoods, safety glasses, gloves, shoe covers and respirators to be worn by all workers
- Objects removed from work area (6-foot perimeter for interior, 20-foot perimeter for exterior work); Immoveable objects covered with plastic and sealed
- HVAC system in interior work area shut down; Vents covered and sealed
- Shut doors and windows in interior work area (6' perimeter), cover with plastic and seal
- Shut doors and windows in exterior work area (20' perimeter) and keep closed during work
- Cover interior work area entrance/exit door with plastic with weighted flap to keep contamination from spreading beyond the work area and install tack-pad to step on
- Cover floors in interior work area with plastic sheeting, secure to wall and seal edges. Must cover 6' perimeter or longer if needed to adequately contain dust and debris
- Cover ground, plants and shrubs for exterior work with tarps or plastic that is anchored to the building and weighed down by heavy objects. Cover must extend a minimum of 10 feet on all sides, or longer if needed to adequately capture dust and debris.

**WORK:**

- Place all necessary tools and equipment on plastic sheeting or exterior tarp prior to starting work. (Power sanders, grinders or other power tools cannot be used, unless equipped with a HEPA-vacuum attachment)
- Work area to be properly contained, inspected and maintained to ensure dust and debris are not spread outside work area. Exterior work on windy days is prohibited
- Wet methods must be used with scraping, sanding, drilling, cutting or any dust-making activity (except within 1 foot of electrical outlets)
- Waste must be put in leak-tight bags or containers or securely wrapped and sealed. HEPA-vacuum and wipe down waste bags before removing from the work area
- Residential waste: can be disposed of as trash or regular construction debris
- Non-Residential waste: must be containerized and stored in a secure area, until laboratory TCLP analysis determines if it must be disposed of as hazardous waste
- Tools and equipment must be thoroughly decontaminated before removal from work area

- Plastic sheeting used for containment and covering objects must be misted, folded inward and taped for disposal. (Plastic sheeting that separates interior work area from other areas must remain in place until final cleaning is complete and verified)
- Tarps used for exterior work must be HEPA-vacuumed, folded dirty side inward and stored in plastic bags for future use. (Reusable tarps used for exterior work can never be used for interior work)
- Cleanup (interior): Horizontal surfaces cleaned by HEPA- vacuuming followed by wet-wiping with water/detergent solution; Vertical surfaces cleaned by HEPA-vacuum; Carpets HEPA-vacuumed with a beater-bar attachment
- Cleanup (exterior): HEPA-vacuum all visible paint chips, dust and debris
- Remove coveralls and shoe covers before exiting the work area, wet-wipe shoes and step on tack-pad before walking around outside the work area

**POST WORK:**

- Cleaning Verification of Window Sills (interior): Wipe each window sill in work area with a wet disposable cloth (use a separate cloth for each sill) and compare to the EPA Post-Renovation Cleaning Verification Card – If it matches or is lighter than card, it passes; If it does not pass, re-clean and repeat verification; If the second cloth does not pass, wait for 1 hour until the surface is dry, then wipe the surface with a dry electrostatic cleaning cloth. The cleaning verification procedure is now complete
- Cleaning Verification of Horizontal Surfaces (interior): Wipe each countertop, shelf or other horizontal surface in work area with a wet disposable cloth (use one cloth for each 40 SF area) – Follow cleaning verification procedure described previously
- Cleaning Verification of Flooring (interior): Wipe uncarpeted flooring in work area with a wet disposable cloth using a device with a handle and head to which the cloth is attached (use a separate cloth for each 40 SF section of floor) – Follow cleaning verification procedure described above
- Cleaning Inspection (exterior): Inspect ground and area for paint chips/debris and check exterior sills and ledges for dust and debris
- Once interior cleaning verification or exterior visual inspection is complete, the warning signs and barrier tape can be removed
- Expiration date of EPA Post-Renovation Cleaning Card (interior work): \_\_\_\_\_
- Submit this checklist, personal air monitoring data and all other documentation to EH&S

Comments: \_\_\_\_\_ (continue on reverse)

Project Supervisor: \_\_\_\_\_ Date: \_\_\_\_\_