

Lead Based Paint Plan Missouri Housing Development Commission

Background

The Missouri Housing Development Commission (MHDC) has historically followed the lead of the Department of Housing and Urban Development (HUD) and the Environmental Protection Agency (EPA) relating to housing. In the 1970s and 1980s, MHDC used the HUD approach to the Lead Based Paint Poisoning Prevention Act and the subsequent versions of regulations as presented in the Code of Federal Regulations, No. 24, Part 35. In 1991, these standards were revised extensively for Public and Indian Housing, and in 1992 the Lead-Based Paint Hazard Reduction Act of the Housing and Community Development Act extended some controls into rental housing. The Reduction Act, or Title X, led to the publication in the summer of 1995 of the HUD Guidelines for the Reduction of Lead Based Paint Hazards and the HUD regulations published in September 1999.

Concurrently with these actions, Missouri adopted statutes 701.300 through 701.338 establishing a Lead Commission and a set of standards and qualifications for the licensing of the testing and lead construction abatement industry in Missouri. In 1995, MHDC developed and began following its own Lead-Based Paint Policy and Procedures. These standards have been adopted to comply with the 24 CFR Part 35, current HUD regulations and the EPA and State recommended work practices.

Consultation & Coordination

MHDC is coordinating and consulting with the Missouri Department of Health and Senior Services (DHSS) in an effort to become better informed about the existing statewide data on lead hazards and poisonings, including health department data on the zip codes in which there is Universal Testing of children less than six years of age and which have been identified as high risk areas for lead poisoning (see the Missouri. Lead Testing Areas Map). According to the DHSS, geographic areas are identified as requiring Universal Testing if the percentage of children tested who have an elevated blood level is 12% or greater; if pre-1950 housing is 22% or greater of the total housing stock and a sufficient percentage of children were **not** tested (based on population estimates) or 90% of children tested had an unknown address for three consecutive years, or if there is any current or historically operating lead mine, mill or smelter, and a sufficient percentage of children were **not** tested (based on population estimates) or 90% of children tested had an unknown address for three consecutive years. In addition to collaborating with state and local health departments on the current level of risk to children in Missouri, MHDC will strive to leverage and utilize its HOME funds with other possible sources of federal and state funding to make a greater impact toward reducing the lead hazards where it is found to be highest in participating jurisdiction of the State of Missouri.

Lastly, after reviewing DHSS data on the number and percentage of children reported to have elevated blood levels of lead and census data on the percentage of pre-1979 housing in Missouri, MHDC estimates there are 164,516 extremely low-income households;

167,118 low-income households; and 208,290 moderate income households at risk of containing lead-based paint hazards.

Preliminary Impact

Housing constructed prior to 1978, before lead was banned from residential paint, can pose serious hazards to the very young if the painted surfaces are allowed to wear or to deteriorate. This potentially impacts MHDC in four areas: properties being funded for rehabilitation under MHDC's Rental Housing Production and Preservation Programs; the HOME Repair Program; rental properties for which MHDC administers rental assistance programs; and in those properties constructed before 1978 and for which MHDC currently holds a mortgage.

Proposed Response

What follow are general descriptions for the lead hazard evaluation of properties and for lead hazard reduction procedures to be followed, when warranted, if a hazard is present.

MHDC Lead-Based Paint Policy and Procedures

MHDC Rental Housing Production Programs Guidelines for Rehabilitation Projects

1. MHDC requires a physical needs assessment for all rental housing production proposals for the rehabilitation of existing buildings. The physical needs assessment must include an assessment of the presence or suspected presence of lead-based paint, asbestos or mold for all proposals.
2. Developers must provide the age of the structure as requested in the Rental Production application FIN-100.
3. Developers must submit the following documents with the Part 1 application for firm commitment (generally due March 1 of each year):
 - a. Phase I Environmental Report with potential lead hazard identified for buildings constructed prior to 1978;
 - b. Lead Hazard Evaluation Procedures; and
 - c. Lead Hazard Reduction Procedures.

As the result of the firm submission review, MHDC staff shall indicate the required lead hazard reduction work and protective measures to be followed during construction.

4. Prior to the conversion or closing of a permanent loan with MHDC, the borrower shall provide:
 - a. Tenant Notification Procedures;
 - b. Lead Clearance;
 - c. Contractor's Abatement License; and
 - d. Ongoing Maintenance Procedures, if required.

**HOME Repair Program
&
HOME Rental Production Program**

LEAD-BASED PAINT REFERENCE GUIDE

(24 CFR PART 35)

Revised 07/20/2007

(Sub-Grantees are to refer to and comply with all of the pertinent lead paint regulations. The following is only an overview.)

A. HUD's Lead-Safety Regulation

Federal Register (Wednesday, September 15, 1999)

Department of Housing and Urban Development

24 CFR Part 35, et al.

Requirements for Notification, Evaluation, and Reduction of Lead-Based Paint Hazards in Federal Owned Residential Property and Housing Receiving Federal Assistance; Final Rule

B. Exemptions 24 CFR 35.115

- Post-1977 housing (1978 and newer)
- Zero-bedroom units
- Property certified as lead safe
- Property where lead-based paint was removed
- Rehabilitation or maintenance activities that do not disturb painted surfaces
- Emergency actions

C. Documentation Required

1. **Notice To Occupants:** Occupants must be provided with the following documentation:
 - a. EPA Lead Hazard Information Pamphlet at the time of purchase or lease;
 - b. "Notice of Hazard Evaluation" (or presumption) within 15 calendar days of the date when the evaluation is received or the presumption is made (*24 CFR 35.125(a)*); and
 - c. "Notice of Hazard Reduction & Clearance" no more than 15 calendar days after the hazard reduction activities have been completed (*24 CFR 35.125(b)(1)*).

2. **Hazard Reduction:** The following documentation must be completed:
 - a. Final scope of work addressing both lead and non-lead paint prior to firm commitment for construction funded from the multifamily HOME Rental Production Program.

- b. For lead reduction activities that are performed on properties funded through the single-family HOME Repair Program, MHDC requires the contractor supervisor to be trained in Safe Work Practices.
 - c. For properties funded through the multifamily HOME Rental Production Program, MHDC requires the Owner to hire a contractor certified as a lead-based paint specialist. A copy of the contractor's Lead Abatement Contractor license is required prior to conversion/permanent closing.
 - d. For properties funded through the multifamily HOME Rental Production Program, certification by the contractor that Safe Work Practices (*24 CFR Part 35.1350*) have been observed is required prior to conversion/permanent closing.
3. **Clearance Report:** Clearance must be performed by a licensed Risk Assessor after all rehab work is done, with a copy of the clearance report and qualifications of the Risk Assessor sent to the MHDC Homeownership division at the time of payment request (HOME Repair Program) or to the MHDC Rental Production division prior to conversion/permanent closing (HOME Rental Production Program).

D. General Procedural Overview

For single-family properties receiving funds from the HOME Repair program:

1. A visual assessment walk-through by an HQS inspector trained in visual assessment (per self-administered HUD Internet course at <http://www.hud.gov/offices/lead>) looks for defective paint and applies the *de minimis levels* (*24 CFR Part 35.1350(d)*) to all rehabilitation work to be performed regardless of defective paint.
2. MHDC staff reviews the level of HOME rehabilitation assistance and calculates the applicable lead-based paint requirements.

For multifamily developments receiving funds from the HOME Rental Production Program:

1. A lead paint inspection or risk assessment must be performed by a licensed lead-based paint professional.
2. MHDC staff reviews the results and determines mitigating items that must be addressed prior to the completion of construction.

The rehabilitation scope of work must integrate both “lead” and “non-lead” triggered activities. (Provide the preliminary work write-up to Risk Assessor, then incorporate the assessment's findings.)

1. **De Minimis Levels:** *De minimis levels* are exceptions to safe work practices and defined as work which disturbs less than:
 - a. 10 square feet on exterior surfaces;
 - b. 2 square feet in any one interior room or space; or
 - c. 10 percent of area of a interior or exterior component with a small area (sills, baseboards, etc.).

2. **Lead-Triggered Activity:** A lead-triggered activity is anything that is a lead hazard, or reduces a lead hazard, including:
 - a. Any defective paint surface (until tested to be non-lead)
 - b. Any rehabilitation work greater than the *de minimis levels* disturbing a lead painted surface to be performed with safe work practices
 - c. Any abatement activities from risk assessment

3. **Course of Action:**
 - a. Determine the level of hazard evaluation and reduction (*24 CFR 35.915-930*).
 - b. Presume lead or evaluate (*option – 24 CFR 35.120*); evaluation recommended.
 - c. Perform Lead Paint Inspection and/or risk assessment and/or Lead Hazard Screen by licensed personnel.
 - d. Include in the scope of work for “lead” activities the interim controls and/or abatement recommendations from a risk assessor and safe work practices for items determined to be lead paint.
 - e. Determine impact of ‘occupant relocation’ requirements (*24 CFR 35.1345*).
 - f. Based on the results of Lead Paint Inspection and/or risk assessment and/or Lead Hazard Screen, establish contractor qualifications (*see Safe Work Practices 24 CFR 35.1325-1330*), safe work practices to be used (including occupant protections), and achieve clearance in bid invitation and contract.
 - g. Relocate occupants and belongings, if necessary (*24 CFR Part 35.1345*).
 - h. Supervise work so that “Safe Work Practices” at 24 CFR Part 35.1350 are used: worksite is prepared/contained and occupants and their belongings are protected, prohibited methods of paint removal are not used, specialized cleaning is conducted to achieve clearance, certification is made that Safe Work Practices have been followed.
 - i. Collect lead dust wipe and soil clearance samples upon the completion of the work.
 - j. Achieve clearance and obtain report approval after all rehab work is done.

E. Lead Hazard Evaluation Methods & Qualifications

1. **Visual Assessment (accepted for HOME Repair only):** A visual assessment for deteriorated paint consists of a visual search for cracking, scaling, peeling, or chipping paint. This assessment does not identify the presence of lead, only the potential danger. The assessment is performed by either a licensed risk assessor or Housing Quality Standards (HQS) inspector trained in visual assessment.

2. **Lead Paint Inspection:** A lead-based paint inspection is a surface-by-surface investigation to determine the presence of lead-based paint through XRF analyzer testing and laboratory analysis. Lead Paint Inspections must be conducted by state licensed lead paint inspectors or risk assessors.
3. **Risk Assessment:** A risk assessment is a comprehensive investigation of a dwelling to identify lead-based paint hazards that includes paint testing, dust and soil sampling, and a visual evaluation. Risk assessment details are summarized in a written report with recommendations for actions. A licensed risk assessor must conduct the assessment.
4. **Lead Hazard Screen:** A lead hazard screen is similar to a risk assessment. The sampling is less extensive, but the requirements are more stringent. If the unit fails the lead hazard screen, then a full risk assessment must be performed. The screen must be performed by a licensed risk assessor.

F. Lead Hazard Reduction Methods

1. **Paint Stabilization:** Paint stabilization reduces exposure to lead-based paint by addressing deteriorated paint on exterior and interior surfaces through repairs, safe paint removal, and repainting or abatement.
2. **Interim Controls:** (24 CFR 35.1330) Interim controls are temporary measures to reduce human exposure to lead-based paint hazards through repairs, painting, maintenance, special cleaning, occupant protection measures, clearance, and education programs. Interim control methods require safe practices and include:
 - a. **Paint stabilization** – All deteriorated paint on exterior and interior surfaces must be stabilized through repairs, safe paint removal, and repainting.
 - b. **Treatment for friction or impact surfaces** – If lead-based paint is found and exceeds acceptable levels or is presumed to exceed it, the conditions creating friction or impact with surfaces with lead-based paint such as those that rub, bind, or crush must be corrected. Examples of this work include re-hanging binding doors, installing door stops, or reworking windows.
 - c. **Treatment for chewable surfaces** – If a child under six has chewed surfaces known to contain lead-based paint or if lead-based paint is presumed, these surfaces must be enclosed or coated so they are impenetrable.
 - d. **Lead-contaminated dust control** – All horizontal surfaces that are rough, pitted, or porous such as bare floors, stairs, window sills, and window troughs must be covered with a smooth, cleanable covering or coating such as metal coil stock, plastic, polyurethane, or linoleum. Carpeting must be vacuumed or rugs must be removed and vacuumed on both sides. Vacuuming must be done using HEPA vacuums.
 - e. **Lead-contaminated soil control** – If soil is lead-contaminated, interim controls that may be used include impermanent surface coverings such as

gravel, bark, and sod as well as land use controls such as fencing, landscaping, and warning signs.

Interim Controls (including Standard Treatments) (24 CFR 35.1330): the workers should be trained in accordance with the OSHA Hazard Communication Requirements (29 CFR 1926.59) and either be supervised by an individual certified as a lead-based paint abatement supervisor or must have successfully completed one of the following courses:

- LBP abatement worker or supervisor (40 CFR 745.225);
 - Operations and Maintenance (NETA);
 - Remodeler's and Renovator's Lead-Based Paint Training Program developed by HUD and the National Association of the Remodeling Industry; or
 - An equivalent course approved by EPA or HUD.
3. **Abatement**: Abatement permanently removes lead-based paint and lead-based paint hazards by removing lead-based paint and its dust, or permanently encapsulating or enclosing the lead-based paint, replacing components that have lead-based paint, and removing or permanently covering lead-contaminated soil. Encapsulation and enclosure require ongoing maintenance to check their effectiveness.

Abatement must be conducted by certified abatement workers who have successfully completed a lead-based paint abatement worker course accredited by EPA. These workers must be supervised by a lead-based paint abatement supervisor certified under a State program authorized by EPA or conducted by EPA.

G. Safe Work Practices 24 CFR 35.1350

1. **Prohibited Methods of Paint Removal**: (24 CFR 35.140)
The following methods *shall not be used* to remove paint that is, or may be, lead-based paint:
- a. Open flame burning or torching;
 - b. Machine sanding or grinding without a high-efficiency particulate air (HEPA) local exhaust control;
 - c. Abrasive blasting or sandblasting without HEPA local exhaust control;
 - d. Heat guns operating above 1100 degrees Fahrenheit or charring the paint;
 - e. Dry sanding or dry scraping, except dry scraping in conjunction with heat guns or within 1.0 ft. (0.30 m.) of electrical outlets, or when treating defective paint spots totaling no more than 2 sq. ft. (0.2 sq. m.) in any one interior room or space, or totaling no more than 10 sq. ft. (2.0 sq. m.) on exterior surfaces; or
 - f. Paint stripping in a poorly ventilated space using a volatile stripper that is a hazardous substance in accordance with regulations of the Consumer Product

Safety Commission at 16 CFR 1500.3, and/or a hazardous chemical in accordance with the Occupational Safety and Health Administration regulations at 29 CFR 1910.1200 or 1926.59, as applicable to the work.

2. Occupant Protection: (24 CFR 35.1345)

Occupants shall not be permitted to enter the worksite during hazard reduction activities (unless they are employed in the conduct of these activities at the worksite), until after hazard reduction work has been completed and clearance, if required, has been achieved.

Occupants shall be temporarily relocated before and during hazard reduction activities to a suitable, decent, safe, and similarly accessible dwelling unit that does not have lead-based paint hazards, except if:

- a. Treatment will not disturb lead-based paint, dust-lead hazards or soil-lead hazards;
- b. Only the exterior of the dwelling unit is treated, and windows, doors, ventilation intakes and other openings in or near the worksite are sealed during hazard control work and cleaned afterward, and entry free of dust-lead hazards, soil-lead hazards, and debris is provided;
- c. Treatment of the interior will be completed within one period of eight daytime hours, the worksite is contained so as to prevent the release of leaded dust and debris into other areas, and treatment does not create other safety, health or environmental hazards (e.g., exposed live electrical wiring, release of toxic fumes, or on-site disposal of hazardous waste); or
- d. Treatment of the interior will be completed within five calendar days, the worksite is contained so as to prevent the release of leaded dust and debris into other areas, treatment does not create other safety, health or environmental hazards; and, at the end of work on each day, the worksite and the area within at least 10 feet (3 meters) of the containment area is cleaned to remove any visible dust or debris, and occupants have safe access to sleeping areas, and bathroom and kitchen facilities. (HUD Interpretive Guidance J24 – The term “interior work” refers to work in a single room. See also R18 and R19.)

The dwelling unit and the worksite shall be secured against unauthorized entry, and occupants' belongings protected from contamination by dust-lead hazards and debris during hazard reduction activities. Occupants' belongings in the containment area shall be relocated to a safe and secure area outside the containment area, or covered with an impermeable covering with all seams and edges taped or otherwise sealed.

3. Worksite Preparation: (24 CFR 35.1345)

The worksite shall be prepared to prevent the release of leaded dust and contain lead-based paint chips and other debris from hazard reduction activities within the worksite until they can be safely removed. Practices that minimize the spread of

leaded dust, paint chips, soil and debris shall be used during worksite preparation.

A warning sign shall be posted at each entry to a room where hazard reduction activities are conducted when occupants are present, at each main and secondary entryway to a building from which occupants have been relocated, or, for an exterior hazard reduction activity, where it is easily read 20 feet (6 meters) from the edge of the hazard reduction activity worksite. Each warning sign shall be as described in 29 CFR 1926.62(m), except that it shall be posted irrespective of employees' lead exposure and, to the extent practicable, provided in the occupants' primary language.

4. Specialized Cleaning:

After hazard reduction activities have been completed, the worksite shall be cleaned using cleaning methods, products, and devices that are successful in cleaning up dust-lead hazards, such as a HEPA vacuum or other methods of equivalent efficacy, and lead-specific detergents or the equivalent.

5. De Minimis Levels: Safe Work Practices are not required when maintenance or hazard reduction activities do not disturb painted surfaces that total more than:

- a. 10 square feet (2 square meters) on exterior surfaces;
- b. 2 square feet (0.2 square meters) in any one interior room or space; or
- c. 10 percent of the total surface area on an interior or exterior type of component with a small surface area. Examples include window sills, baseboards, and trim.

H. Worker Protection

1. Prior to the start of any stabilization, demolition and / or renovation work that will impact building components with lead-based paint, the contractor performing the work must have a written respiratory protection program in place (*OSHA 29 CFR 1910.134*), documentation indicating that his or her workers have had medical surveillance, are medically cleared to wear a respirator, and have passed a qualitative fit test.
2. In accordance with OSHA 19 CFR 1926.62 (Lead in Construction Standard), an initial employee exposure assessment must be conducted (through personal lead air monitoring) during stabilization, renovation and / or demolition activities that will impact building components with lead-based paint. Respiratory protection will be required for each activity until air monitoring many prove exposures are below the Permissible Exposure Limit (PEL).

I. Lead Hazard Criteria

DUST (EPA and most other states)

Floors	< 40 micrograms per square foot (40 µg/ft ²)
Window Sills (stools)	< 250 µg/ft ²
Window Troughs (wells)	< 400 µg/ft ² (clearance only)

PAINT (HUD, EPA, Kansas, Missouri, and most other states)

XRF (On-Site Test)	≥ 1.0 milligrams per square centimeter (mg/cm ²)
AAS (Laboratory)	≥ 0.5% by weight
CPSC (1978 law)	≥ 0.06% by weight (maximum lead concentration for residential paints only)

AIR (OSHA)

Action Level (AL)	≥ 30 micrograms per cubic meter (µg/m ³)
Permissible Exposure Limit (PEL)	≥ 50 µg/m ³

WASTE (EPA – Under RCRA, there are four characteristic tests. The two not shown below are *Ignitability* and *Reactivity*. The two types of characteristic tests shown below are the types that fail most often.)

Toxicity (TCLP)	≥ 5 parts per million (PPM) – 7 other metals also
Corrosivity (pH)	< 2.0 pH units or > 12.5 pH units

WATER (EPA – SDWA)

Drinking Water	< 15 parts per billion (PPB)
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BLOOD

OSHA (Adult)	< 40 micrograms per deciliter (µg/dl) 2 @ ≥ 50 µg/dl - requires medical removal
CDC Children	< 10 µg/dl
Adults	< 25 µg/dl (recommendation)

SOIL (EPA and most other states)

Bare Soils	< 400 PPM – high traffic/high contact/play areas < 1200 PPM – all other areas of property
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(reference: Baker Environmental Consulting, Inc.)

J. Resources on Lead Based Paint Regulations

- HUD's Lead-Safety Regulation – 24 CFR Part 35
“Requirements for Notification, Evaluation, and Reduction of Lead-Based Paint Hazards in Federal Owned Residential Property and Housing Receiving Federal Assistance; Final Regulation (September 15, 1999)”

- HUD Interpretive Guidance September 21, 2000
- HUD Guidelines for Evaluation and Control of Lead-Based Paint Hazards
- HUD Office of Healthy Homes & Lead Hazard Control
 Website: <http://www.hud.gov/offices/lead>
 Regulation Hotline: (202) 755-1822 ext 104
 E-mail: lead_regulations@HUD.gov
- The National Center for Lead-Safe Housing
 Website: www.lead-safehousing.org
 Implementing HUD's Lead-Safety Regulation
 Internet Guide to the Rule, Model Documents and Specifications
- The Lead Listing (for HUD)
 Website: www.leadlisting.org
 Hotline: 1 (888) LEADLIST
 Lists companies providing lead services and training opportunities
- The Environmental Network
 Website: <http://www.environmentalnetwork.com/>
 Lists companies providing lead services
- EPA
 Website: www.epa.gov/opptintr/lead
- National Lead Information Center
 Hotline: 1 (800) 424-5323