

**LEAD-SAFETY FOR NONPROFIT
PROPERTY OWNERS, DEVELOPERS
AND MANAGERS**

**Prepared by
by The National Center for Lead-Safe Housing
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ABOUT THE NATIONAL CENTER FOR LEAD-SAFE HOUSING

The National Center For Lead-Safe Housing (the Center) was founded in October 1992 to bring the housing, environmental and public health communities together to combat the national epidemic of childhood lead poisoning. The Center was created and funded by the Fannie Mae Foundation and is sponsored by two national organizations: The Alliance To End Childhood Lead Poisoning and The Enterprise Foundation. Funding for the Center is provided by grants from the Fannie Mae Foundation, the U.S. Department of Housing and Urban Development (HUD) and the Robert Wood Johnson Foundation, among others.

Childhood lead poisoning affects nearly 1 million children across the country, yet is entirely preventable. The major cause of lead poisoning is known to be deteriorating lead-based paint, and the interior and exterior dust created by such paint. The Center seeks to develop, validate and promote the nationwide adoption of cost-effective, practical strategies that sharply reduce the incidence of lead poisoning while also preserving the nation's stock of affordable housing.

One of the Center's objectives is to sponsor research on methods to limit and reduce lead hazards, and to scientifically assess risks. The Center will also promote policies that target scarce resources in a rational manner, clarify standards of care for landlords and build a national coalition of housing professionals, environmentalists, health care providers, bankers, homeowners, renters, insurers, labor, and government.

This bulletin was written to provide guidance to nonprofit housing organizations working in lower income, distressed neighborhoods...those areas that have the highest incidence of childhood lead poisoning. By taking low cost, simple steps in their everyday development and management activities, nonprofits can help create a safer environment for their residents.

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LEAD SAFETY FOR NONPROFIT PROPERTY OWNERS, DEVELOPERS AND MANAGERS

Purpose

Many nonprofits own, manage or rehabilitate older dwellings that were painted with paint that has lead in it (lead-based paint.) Most of these housing units were built before 1950 when interior and exterior house paints containing as much as 50% lead were widely used. Therefore, it is likely that problems caused by lead-based paint will be present in these units.

Paint companies added lead to paint in the 1800s, because it improved its quality, making it last longer, increasing its ability to reduce rust and improving its ability to hold color. Medical problems associated with lead based paint began to be known around the turn of the century, but it wasn't until the early 1950s that paint companies in the United States began to reduce the amount of lead that they used in paint. In the 1970s, the federal government began to regulate the use of lead-based paint in housing, and in 1978 banned its use in housing. The federal government now defines lead-based paint as paint containing 1.0 mg/cm² or more of lead (see Glossary for complete definition), and lead-based paint hazards as deteriorated paint, lead-contaminated dust and soil, and lead-based paint on windows, doors and other surfaces that are prone to impact or can be chewed by children.

This guide was written to help nonprofits understand how to:

- address the lead-based hazards in their housing stock during development and maintenance activities;
- avoid exposing children to these hazards;
- conform to HUD and EPA requirements; and
- eliminate or mitigate potential liabilities arising out of these hazards.

Because low-rent housing has a very low or non-existent profit margin, it is important that the lead safety techniques be as low-cost as possible while being protective of children's health. The recommendations in this guide are written with that in mind. At a minimum, the lead-safe practices recommended here should be followed during rehabilitation and maintenance activities. If additional funds are available, one should implement specific lead hazard control procedures. New regulations regarding federally funded housing programs (including HOME, Community Development Block Grant, and HOPE, among others) are expected to be published in 1998 that will cover the new lead-safety requirements for those programs. In the meantime, we recommend that the procedures contained in this guide be followed. Keep in mind that these measures can actually save money in the long term, by reducing the likelihood that residents will get lead poisoned, and providing a defense in case of any lawsuits that do arise.

The Problem of Childhood Lead Poisoning

The problem of childhood lead poisoning represents one of the greatest preventable pediatric health problems in our society, with an estimated 890,000 children having elevated blood lead levels. This is about 4.4% of all U.S. preschoolers. Low-income children living in neighborhoods with older, deteriorating housing are most at risk. In some of these communities, more than half of children tested have elevated blood lead levels.

Lead affects virtually all body systems, but its effects on the nervous system are the most important. Even at low levels, exposure to lead can cause reductions in a child's IQ and attention span, and result in reading and learning disabilities, hyperactivity and behavioral problems. These effects can be irreversible, affecting a child's success in school and performance later in life. Severe exposures can permanently damage the kidneys, cause seizures, coma and even result in death. Even unborn children are at risk, because lead can cross from a mother's blood to a fetus. Elevated lead levels in the blood can also cause problems to adults, including high blood pressure, digestive problems and reproductive problems, including low sperm count, low sex drive, and increased numbers of miscarriages and still births.

The primary cause of childhood lead poisoning is deteriorating lead-based paint and lead-contaminated dust and soil in older housing units. Although lead was banned from residential house paint in 1978 by the Consumer Product Safety Commission (CPSC), an estimated 64 million homes still contain some lead-based paint. Of these, about 3.8 million dwellings with lead-based paint hazards are thought to have young children as residents.

Lead-based paint hazards have been defined in the Residential Lead Based Paint Hazard Reduction Act of 1992, commonly referred to as Title X ("title ten"), as any of the following conditions:

- lead contaminated dust;
- deteriorated lead-based paint;
- intact lead-based paint on friction, impact and chewable surfaces, such as doors, windows and window sills
- lead-contaminated bare soil.

Intact lead-based paint is not an immediate hazard unless it is disturbed through renovation.

Children discover much of the world through their mouths, so it is not surprising that the most common route of exposure for children is through ingestion of lead-contaminated dust or soil. This dust sticks to moist hands as a child plays or crawls across the floor or ground, and is then ingested through normal hand-to-mouth activity. A child can also be poisoned by eating lead-based paint chips and by being exposed to other environmental sources of lead from inside and outside the home. Additionally, ordinary maintenance and renovation activities, such as repainting, that disturb lead-based paint can generate significant levels of leaded dust to which children can be easily exposed.

Lead poisoning afflicts children across all socioeconomic strata and in all regions of the country. However, because lead-based paint hazards tend to be more severe in older, dilapidated rental housing, children in poor, inner-city neighborhoods are disproportionately affected. The problem

is compounded by the fact that the owners of these properties often do not have access to funds to properly control the lead-based paint hazards. Also, owners often defer needed maintenance and repair work. This may exacerbate lead-based paint hazards.

In the past, efforts to control or eliminate lead-based paint hazards were initiated only after a child had already been identified as being lead-poisoned. However, with the enactment of Title X, the national focus is now on “primary prevention” of childhood lead poisoning, which means controlling lead-based paint hazards before they can poison a child. Indeed, Title X represents an important step forward toward the goal of ensuring a lead-safe residential environment for all children.

Federal Regulations Dealing with Lead-Based Paint

Title X is the most comprehensive and significant lead poisoning prevention legislation in more than two decades. It calls for regulations to be written in a number of areas, affecting property owners, contractors, tenants, real estate agents and state and local government agencies.

Some of its regulations are in effect, others are still in draft form and still others are waiting to be written. Appendix A describes the regulations more fully and provides the citations for easy reference to the rules themselves. (See the HUD Office of Lead Hazard Control Homepage at <http://www.hud.gov/lea/leahome.html> for the text of HUD regulations.) The following guidance incorporates the existing regulatory requirements. If you follow the suggestions below, you will be abiding by the existing law, and in many cases, taking some extra steps to protect children.

What You Can Do To Develop Property In A Lead-Safe Manner

Regulations regarding the development and management of property funded with federal assistance were proposed in 1996 and are expected to become final in 1998. These regulations will govern how to address lead hazards when HUD funds are used for housing assistance. The federal programs covered include Community Development Block Grants (CDBG), HOME, HOPE, Section 8 and housing voucher programs and FHA insured programs, among others.

The regulations will probably have an effective date of at least one year after publication. Until that time, the regulations written pursuant to the Lead-Based Paint Poisoning Prevention Act of 1971 are in effect. These regulations require properties to be visually inspected, and defective paint to be corrected. If a child under the age of seven is found to have an elevated blood lead level of 25 micrograms per deciliter of blood or higher, then surfaces must be inspected with an X-Ray fluorescence analyzer (XRF), and chewable, lead-containing surfaces, such as window sills, must be abated.

Because these regulations are several years old, they do not reflect the latest scientific knowledge about lead-based paint hazards and how to correct them. They require minimal investigations and corrective action. The following guidance includes the required actions, plus some additional low-cost steps that can be taken to protect children from exposure to lead-based paint hazards, and to protect your agency in case of law suits.

Acquisition Issues

The existence of lead-based paint hazards is among the many considerations a developer faces when deciding whether or not to acquire a property. Dealing with lead hazards can add costs to the rehabilitation of a property, or to its maintenance. It is wise to know the potential costs of lead hazard reduction (as well as the costs associated with the removal or reduction of other hazardous materials) before you purchase a property. In that way, you can build the costs of lead hazard control into the rehabilitation costs, which is the most cost effective to address lead hazards. The guidance provided in this document will help keep costs and additional work to a minimum.

If the property under consideration was built prior to 1978, it may have lead-based paint. The chances of it containing some lead-based paint increase with the age of the housing, so that units built prior to 1950 are much more likely to have lead-based paint than those built after 1960. A developer can assume that a property has lead-based paint, and build the costs of dealing with that paint into development costs. Or the developer can hire an inspector/risk assessor to test for the presence of lead-based paint or lead-based paint hazards. This might save money in the long run, because your lead-hazard reduction activities can be targeted only to those components or areas where problems really exist. (See “How to Check Your Home for Lead Hazards,” a booklet published by HUD, EPA and the Consumer Federation of America (CFA) for guidance on finding lead-based paint professionals and the types of activities they perform.)

If private lender financing is involved in your project, the lender might require that an EPA Phase I environmental assessment be performed. The Phase I assessment may include gathering basic information about the property, including whether there is a likelihood of high lead levels being present. If the Phase I assessment shows that there is a likelihood of any hazardous material being present, a Phase II assessment should be done, which includes testing for a variety of substances, including lead. Therefore, testing for lead hazards might be a lender requirement and not an option.

Construction Issues

Lead hazard control often involves the same type of work that is being planned for general rehabilitation. For instance, stabilizing deteriorating paint, replacing deteriorated substrates (such as damaged plaster or wall board), and replacing or repairing windows are lead hazard controls that are commonly included in the rehabilitation of properties. The only additional costs are those involved with working in a lead-safe manner.

Lead-safe development practices include the following (although it is wise to stay abreast of new research findings that may increase our knowledge of lead-safe practices):

- When rehabilitating lead-based painted surfaces, lay down 4 or 6 mil polyvinyl sheeting on the floor to catch any debris. Once work is complete, the poly should be carefully wrapped and disposed of away from the family.
- Certain methods of lead-based paint removal are prohibited for HUD-assisted work, because they generate so much lead contaminated dust. These include open flame burning or torching, machine sanding or grinding without a HEPA exhaust tool, uncontained hydroblasting or high pressure water wash, and abrasive blasting. Dry scraping is not

recommended. Where possible contractors should wet surfaces before scraping to minimize lead dust. Methylene chloride should not be used.

- The contractor should thoroughly clean surfaces after work is complete. Recent studies have shown that regular household detergents such as Spic and Span Pine, Fantastic Lemon Scent Spray and SOS Extra Strength Ammonia Plus may be as effective as lead-specific detergents in picking up lead from surfaces. (Keep in mind that formulations of these products may change.) Similarly, regular vacuum cleaners can be as effective at picking up lead as special “HEPA” vacuums, which are a good deal more expensive. The vacuum bag should be at least partially filled before trying to pick up lead dust. (If you have just changed bags, vacuum a cup of flour into the bag before you start cleaning the room.)
- Families should be kept out of the work area during construction. This would generally happen in any case, but is especially important when lead-contaminated dust may be present.
- Consider taking dust tests after the contractor has completed his or her work, and before the family moves in, to ensure that you are turning over the house in a lead-safe condition. This may help protect your agency from lawsuits, as well as your residents from being lead poisoned.
- Make sure that the contractor (or your agency’s staff if they are doing the work) is abiding by the Occupational Safety and Health Administration’s (OSHA) Lead in Construction Rule, which requires the contractor to protect his or her employees from exposure to lead.

If there are extra funds to address specific lead hazards, consideration should be given to hiring a risk assessor, who can identify specific lead hazards, and develop a more complete remediation plan.

One high risk area not commonly addressed during rehabilitation is the soil surrounding the home. Because exterior paint often contained high lead levels, and because the lead added to gasoline polluted the ground on which the emissions fell, soil can have fairly high lead levels. This is especially true around the perimeter of homes, where exterior paint flaked or was scraped off and polluted the ground. If children play in bare soil, the contamination can easily be picked up on their hands.

Consider restricting children’s access to bare soil, especially around the perimeter of homes or garages, by roads, or by driveways. This is particularly true if the house is built before 1950, and if there is evidence of deteriorated paint (such as paint chips in the soil). This can be done by planting bushes or grass or covering with mulch. Providing a specific area for young children to play, such as a sandbox, is another way to keep them from playing in bare soil.

What You Can Do To Maintain Your Properties In A Lead-Safe Manner

Train Your Staff:

- 1) Have someone on your staff trained to be a Lead Risk Assessor. The training is combined with Inspector training, and gives participants a thorough understanding of environmental lead hazards and their effects on children's health, and training in how to detect lead hazards. Participants are taught how to take dust wipe tests, which are simple, easy to use, low cost tests that can detect the presence of lead-contaminated dust. This person can then be used to evaluate lead hazards in your properties. The training is provided by EPA- and state-approved centers across the country, and costs approximately \$500 for a four and a half to five day course. This fee is sometimes subsidized by local or state health departments, so the cost to nonprofit organizations may be less.
- 2) Have at least one person on your staff attend the Lead-Based Paint Maintenance Training Program. This is a one-day course designed by the National Environmental Training Association (NETA) specifically for property managers, which covers how property maintenance can be done in a lead-safe manner. The materials to present the course cost \$129 from NETA, but Health Departments, Housing Departments and community-based organizations could provide a valuable service by offering the course for low or no cost to property owners, managers and maintenance workers. One person in the building can take the course and pass the information on to coworkers. (A "planning guide" and a video are available for course participants.)

Follow These Steps in Your Properties:

- 1) For all properties built before 1978:
 - Provide the EPA-produced lead information booklet to all residents and disclose known lead-based paint hazards as required by EPA and HUD regulations. (See Appendix A for those requirements.)
 - Follow Essential Maintenance Practices. These practices include steps that a good property manager would follow for all properties regardless of the presence lead-based paint. (See Appendix B for a list of Essential Maintenance Practices.)
 - If you are informed that a child in one of your apartments has an elevated blood lead level, respond promptly. Contact your local health department to find out the requirements of local law. (Use lead safe work practices in renovation, remodeling, and repainting activities that disturb lead-based paint.

Properties Built Between 1950 and 1978 that are in good physical condition:

- Owners may want to consider having an independent certified lead inspector or risk assessor perform dust testing to demonstrate that lead levels are below relevant standards (i.e. federal guidance, state standards) for insurance purposes or to help protect against lead liabilities.

Properties built before 1950 that are in good physical condition:

- When units turn over, repair deteriorated paint using lead-safe practices. (See Appendix D for how to repair paint in a lead-safe manner.) After completing work and clean-up, take “clearance” dust tests to determine if there is lead contaminated dust. (Dust test kits are available from some hardware stores and from some laboratories that analyze dust samples for lead.) If the dust test shows that there is no hazard, the apartment may be rented. If the dust tests show that there is a hazard, do a more thorough visual inspection to make sure any hazards have not been missed, such as binding or rubbing windows or doors, worn lead-based painted floors or exterior sources that may be being tracked in. At this point you may want to consider hiring an outside risk assessor to help you locate the specific hazards. Then those hazards need to be addressed using lead-safe practices. Reclean and do a second round of dust tests to ensure safety. (See Appendix C for Standard Treatments, which describe some of the more common treatments for lead hazards.)

4) Properties in Fair to Poor Physical Condition

- Perform Standard Treatments (Appendix C) at unit turnover, when the unit is vacant; or
- If many units in your portfolio are in poor physical condition, have a risk assessor develop a Lead Hazard Control Plan.

A Lead Hazard Control Plan is a strategic, property wide approach to addressing lead-based paint hazards for an owner of multiple units. The plan generally prioritizes highest risk units, such as those with pregnant women or children under six years of age for lead hazard control work, and presents a program to address lead hazards in other units and common areas over a period of time. You can use your own trained staff member to develop a Lead Hazard Control Plan, or you may want to use an independent third party who has had more experience in writing such plans. A third party plan will be considered to be more objective, and thus may stand up better in court (should you ever be sued) or be more readily accepted by a lender or insurance company looking for assurance that the property is lead safe.

Federally Assisted Units Constructed Prior to 1978

Units which are proposed for HUD assistance (such as HOME, CDBG, and HOPE, among others) and all units which must meet Housing Quality Standards (for instance, units rented to people receiving Section 8 vouchers or certificates) are currently governed by the regulations written pursuant to the Lead-Based Paint Poisoning Prevention Act. In most cases, these units must be visually inspected, deteriorated paint repaired, and chewable surfaces abated if there is a child with an elevated blood lead level present. Federally owned properties are also governed by that Act, and the federal agency that owns the property is responsible for inspecting the property and correcting hazards. See Appendix A for a more complete description of these regulations.

Provide Information to Tenants

While a landlord has an obligation to provide decent and safe housing, there are some steps that residents can take to protect themselves. Providing residents with such information can help them protect their children, and make your job of maintaining lead-safe properties more manageable.

The EPA booklet “Protect Your Family From Lead In Your Home” must be given to all residents at the initial renting of an apartment and at lease renewal. Consider providing this booklet to all your residents, even if they have not just moved in or renewed their lease. In addition to this booklet, many local health departments and the National Center for Lead-Safe Housing have developed materials that provide information on easy steps that parents can take to protect their children. These steps including wiping window wells (a trap for lead-contaminated dust) with a good lead-cleaning detergent, laying blankets on floors for babies to play on, eating foods high in calcium and iron, and putting walk off mats by entrance doors (or taking off shoes by the entrance doors.) Some nonprofit organizations provide their tenants with cleaning supplies, such as mops, buckets, lead-cleaning detergents, and access to vacuum cleaners.

Keep Records

All the above steps should be documented. Every unit should have a file which contains information on when and by whom inspections or risk assessments were performed, when lead information was provided to tenants, when and what type of maintenance, renovation or remodeling occurred, and any complaints or requests from tenants and what action was taken in response to those complaints. This documentation will stand you in good stead should anyone question the safety of your units. Oftentimes the presence of such documentation is sufficient to avoid a lawsuit, since it would be much harder to prove a case against you. See Appendix E for a form that you can use to document such information.

APPENDIX A

REGULATIONS REGARDING LEAD-BASED PAINT AS OF JUNE 1998

Title X calls for regulations in several important areas. Four of these regulations are in effect, and two regulations have yet to be published as final rules. (See the HUD Office of Lead-Hazard Control Homepage at <http://www.hud.gov/lea/leahome.html> for the text of the regulations and required booklets.) These regulations impact on the work of all housing owners, developers and managers. They are:

- Department of Housing and Urban Development and Environmental Protection Agency
24 CFR Part 35; 40 CFR Part 745
Requirements for Disclosure of Known Lead-Based Paint and/or Lead-Based Paint Hazards in Target Housing, March 6, 1996 (final rule)

These regulations are in effect for all owners that wish to sell or rent housing units. These regulations require that: 1) sellers and lessors of most residential housing built before 1978 must disclose the presence of known lead-based paint and/or lead-based paint hazards in the housing; 2) sellers and lessors must provide purchasers and lessees with any available records pertaining to the presence of lead-based paint or lead-based paint hazards; 3) sellers and lessors must provide purchasers and lessees with a federally approved lead hazard information pamphlet, entitled "Protect Your Family From Lead In Your Home;" 4) sellers must provide purchasers with a 10-day opportunity to conduct a risk assessment or inspection; 5) sales and leasing contracts must include certain disclosure language; and 6) real estate agents must ensure compliance with these requirements.

- Environmental Protection Agency
40 CFR Part 745

Requirements for Lead-Based Paint Activities in Target Housing and Child-Occupied Facilities, August 29, 1996 (final rule)

These regulations establish the EPA framework for certification and training programs for contractors, workers, supervisors, inspectors, risk assessors and planners. They also establish minimum national work practice standards for lead hazard evaluation and abatement. The regulations allow States and Tribal Authorities to seek authorization from EPA to administer and enforce regulations developed under this rule. If States have not enacted regulations and do not seek authorization from EPA, EPA will administer and enforce its own regulations starting August 30, 1999.

These regulations are not intended to regulate all activities that involve or disturb lead-based paint, but only those that are described as an inspection, risk assessment or abatement by an individual who offers these services. In their present form, this rule would not regulate a renovation contractor that incidentally disturbs lead-based paint or an individual who samples paint on a component to determine if the paint contains lead.

Requirements for Hazard Education Before Renovation of Target Housing
June 1, 1998 (final rule)

This regulation requires each person who performs a renovation of target housing for compensation to provide a lead hazard information pamphlet entitled “Reducing Lead Hazards When Remodeling Your Home” to the owner and occupant of such housing before the start of work activities. This does not apply to minor repairs and maintenance activities that disrupt 2 square feet or less of painted surface per component, emergency renovation repairs or renovations on surfaces that do not contain lead.

Identification of Dangerous Levels of Lead
June 3, 1998 (proposed rule)

In accordance with Sections 402 and 403 of the Toxic Substances Control Act, these proposed regulations establish standards for lead-based paint hazards in most pre-1978 housing, and residential dust clean-up levels and dust and soil sampling requirements. These rules propose using 50 $\mu\text{g}/\text{ft}^2$ on uncarpeted floors and 250 $\mu\text{g}/\text{ft}^2$ on window sills, and for clearance purposes only 800 $\mu\text{g}/\text{ft}^2$ on window troughs. A soil lead hazard is defined as bare soil that contains total lead equal to or exceeding 2,000 parts per million.

- Occupational Safety and Health Administration (OSHA)
29 CFR Section 1926.62
Lead Exposure in Construction

This final rule contains employee protection requirements for construction workers exposed to lead. Contractors must protect their employees from exposure to lead hazards during any kind of construction. Employers must train workers about lead hazards, determine if they are being exposed to hazardous levels of lead dust, and provide them with adequate personal protection.

- Department of Housing and Urban Development
40 CFR Parts 35, 36 and 37
June 7, 1996 (proposed rule)

Requirements for the Evaluation and Reduction of Lead-Based Paint Hazards in Federally Owned or Assisted Housing, Title X Sections 1012/1023

This regulation (proposed in 1996 and expected to become final in 1998) sets forth significant new requirements concerning lead-based paint hazard notification, evaluation and reduction for federally-owned residential property and housing receiving Federal assistance. These regulations affect all housing financed with Community Development Block Grants, HOME, HOPE, Section 8, FHA insurance or any other federal housing program. The rule’s effective date will be at least one year after its publication, except for prohibitions on certain hazardous work practices that will take effect sooner. Until that time, the federal regulations written pursuant to the Lead-Based Paint Poisoning Prevention Act of 1971 (see below) are in effect.

- Lead Based Paint Poisoning Prevention Act
42 USC 4821, enacted 1971

These regulations will remain effective until the effective date of the Title X regulations for federally assisted housing. They do not reflect the latest scientific thinking and require minimal actions to protect children from lead poisoning. Basically, they state that housing receiving most forms of federal assistance must be visually inspected for deteriorated paint, and if deteriorated paint is found, it must be corrected. If a child with an elevated blood lead level over 25 micrograms per deciliter lives in the unit, that unit must be inspected using an XRF machine, and chewable surfaces coated with lead-based paint, such as window sills, must be abated.

Under the Act, HUD issued regulations (24 CFR, Section 35.24) that include the general procedures for the testing and abatement of lead-based paint hazards in HUD-associated housing and applies to all programs. Section 35.5(c) allows each Assistant Secretary to develop regulations pertaining to specific HUD programs. These program-specific regulations define the conditions that require action, but refer to part 35 for specifics on how the action should be conducted.

24 CFR Section 35.24

The following minimum requirements apply to all programs. Additional regulations have been issued for specific HUD programs by the Assistant Secretaries responsible for those programs.

1) All applicable surfaces (defined as intact and non-intact, interior and exterior painted surfaces of a residential structure) of HUD-associated housing constructed prior to 1978 shall be [visually] inspected to determine whether defective paint surfaces exist.

2)(i) Treatment necessary to eliminate immediate hazards shall, at a minimum, consist of the covering or removal of defective paint surfaces found in such housing.

2)(ii) Covering may be accomplished by such means as adding a layer of gypsum wallboard or a fiberglass cloth barrier to the wall surface. Depending on the wall condition, wallpaper (which is permanently attached and not easily strippable) may be used. Covering or replacing trim surfaces is also permitted. Paint removal may be accomplished by such methods as scraping, heat treatment (infra-red or coil-type heat guns) or chemicals. Machine sanding and use of propane torches are not permitted. Washing and repainting without thorough removal or covering does not constitute adequate treatment. In the case of defective paint spots, scraping and repainting the defective area is considered adequate treatment.

Community Development Block Grants (CDBG) 24 CFR Section 570.608

1) For properties constructed prior to 1978, applicants for rehabilitation assistance, and tenants or purchasers of properties owned by the grantee or its subrecipient and acquired or rehabilitated with assistance provided, shall receive full notification of the possibility of lead paint in their homes, comprehensive information on lead paint poisoning, and what should be done about it.

2) The grantee shall inspect for defective paint surfaces in all units constructed prior to 1978 which are occupied by families with children under seven years of age and which are proposed for rehab assistance. [The following activities assisted under the CDBG are not covered by this paragraph: emergency repairs (not including lead-based paint related emergency repairs), weatherization, water or sewer hook-ups, installation of security devices, facilitation of tax exempt bond issuances, other types of single purpose programs that do not include physical repairs or remodeling, or any non-single purpose program that does not involve applicable surfaces that does not exceed \$3,000, as well as others.]

3) For a dwelling unit receiving rehab assistance, if there is a child under 7 who has a blood lead level greater than 25 µg/dL, all interior and exterior chewable surfaces must be tested with an XRF analyzer. If lead-based paint is found, the surfaces must be treated according to Part 35 as cited above. You can choose to not test and treat all surfaces according to Part 35.

When using CDBG funds for rehab, you have to address the whole building. The only time you can target funds for one or more particular units is when using CDBG funds for "emergency repairs." CDBG funds can be used to complete lead hazard abatement in one unit in a building, if that unit has a child under the age of 7 in residence with a blood lead level greater than 25 µg/dL .

HOME 24 CFR Section 92.355

1) Unlike CDBG which excludes certain activities, any activity which receives HOME funds must comply with 24 CFR Part 35, including first-time homebuyer programs and rental assistance programs, as well as rehab activities. Unlike CDBG, HOME funds can be targeted to specific units. However, regarding lead-based paint hazard controls, all units in the assisted building are subject to these regulations.

2) Notification of lead-based paint hazards is required for tenants, purchasers, and owner-occupants of all HOME-assisted units constructed before 1978.

3) The grantee shall inspect for defective paint surfaces in all units constructed prior to 1978 regardless of the occupancy of the unit.

4) If there is a child under 7 who has an blood lead level greater than 25 µg/dL, all interior and exterior chewable surfaces must be tested with an XRF (the same as CDBG requirements). If lead-based paint is found, the surfaces must be treated according to Part 35 as cited above. One can choose to not test and treat all surfaces according to Part 35.

Housing Quality Standards for Section 8, HOME and HOPE (24CFR Section 882.109)

All units rented to persons receiving Section 8 housing vouchers or certificates must meet Housing Quality Standards (HQS). These are also minimum property standards for units receiving HOME and HOPE funds. The HQS are:

1) It now complies with 24 CFR Part 35; and 2) For a family with a child under the age of 7 with a blood lead level at 25 µg/dL or greater, the unit should be tested with an XRF for lead based paint on chewable surfaces*. If found, surfaces should be treated as per 24 CFR Part 35 as cited

above. In lieu of testing, the Public Housing Agency can treat all surfaces. The owner shall take appropriate action to protect tenants from hazards associated with abatement procedures.

Housing subsidized under Section 8 that is built before 1978 and occupied by a family with a child under the age of seven must be inspected for defective paint. If defective paint surfaces are found, they must be treated according to Part 35 within 30 days.

*Chewable surface is defined as all chewable, protruding, painted surfaces up to five feet from the floor or ground which are readily accessible to children under seven years of age, e.g. protruding corners, window sills and frames, doors and frames, and other protruding woodwork..

HUD-Owned Single Family Disposition (Part 200.815)

For residential structures built before 1978, HUD shall have the property inspected for defective paint surfaces before the closing of the sale of the property. If defective paint surfaces are found, treatment (as required by 24 CFR 35 as cited above) shall be completed before the closing of sale of the property. In the case of a sale to a non-owner occupant purchaser, treatment may be made a condition of sale, with sufficient sale funds escrowed to assure treatment.

For buildings built before 1978, where the purchaser is an owner-occupant and the occupant family has a child under the age of seven, closing of the sale shall be deferred until completion of the following: 1)required screening of all children under seven; 2)if a child with a blood lead level over 25 µg/dL is found, HUD will have the property inspected for lead-based paint on chewable surfaces or follow treatment procedures. Where lead based paint on chewable surfaces is identified, the entire interior or exterior chewable surface shall be treated according to 24 CFR 35 as cited above.

HUD-Owned Multi-family Property Disposition (Part 200.825)

For residential structures built before 1978, HUD shall have the property inspected for defective paint surfaces before offering the property for sale. If defective paint surfaces are found, treatment as required by 24 CFR 35 as cited above shall be completed before delivery of the property to the purchaser, or if the disposition program under 24 CFR part 290 provides for repairs to be performed by the purchaser, such treatment may be included in the required reports.

If the residential structure was constructed or substantially rehabilitated prior to 1978, HUD will test a random sample of the units for lead based paint on chewable surfaces, using an XRF or other approved method. Where lead based paint on a chewable surface is identified, the entire interior or exterior surface shall be treated, according to 24 CFR 35 as cited above. Treatment shall be completed before delivery of the property to the purchaser (unless the purchaser is responsible for the repairs according to 24 CFR part 290).

Federally-owned Properties Prior to Sale for Residential Habitation (Part 35, Subpart E)

This regulation applies to all Federal agencies, e.g., General Services Administration, Veterans Administration, etc., as well as HUD, disposing of housing. Its section 35.52 says, "The

requirements established by this subpart E are applicable to all federally-owned properties prior to their sale by a Federal agency when their use is intended for residential habitation." HUD's rules go beyond this (as allowed in section 35.56(b)); this subpart sets the Federal minimum. The requirements are provided in section 35.56(a), and include: (1) visual inspection to determine whether defective paint surfaces exist, (2) treatment necessary to eliminate hazards of lead-based paint, and (3) giving prospective purchasers all required notifications.

APPENDIX B

ESSENTIAL MAINTENANCE PRACTICES FOR PROPERTY OWNERS

1. Use safe work practices:

- Use safe work practices during work that disturbs paint that may contain lead to avoid creating LBP hazards. These include: limit access to the work area only to workers; cover the work area with four to six mil polyethylene plastic, tack pads or equivalent; protect workers; protect occupants' belongings by covering or removing from the work area; wet painted surfaces before disturbing; and wet debris before sweeping.
- Do not use unsafe paint removal practices, including:
 - Open flame burning;
 - Power sanding or sandblasting (unless a special vacuum attachment is used to contain dust);
 - Water blasting; and
 - Dry scraping more than a de minimis surface area (for example, more than one square foot per room).
- Perform specialized cleaning of the work area upon completion of work using methods designed to remove lead-contaminated dust.

Perform visual examinations for deteriorating paint (unless the paint is found not to be LBP):

- At unit turnover; and
- Every 12 months (unless the tenant refuses entry, in which case the refusal should be documented).

Promptly and safely repair deteriorated paint and the cause of the deterioration. If more than a de minimis amount of paint has deteriorated (unless the paint is found not to be LBP):

- Make the surface intact by paint stabilization, enclosure, encapsulation, or removal.
- Follow Essential Maintenance Practice #1 (above) when repairing the surface.
- Diagnose and correct any physical conditions causing the paint deterioration (for example, structural and moisture problems causing substrate failure to conditions causing painted surfaces to be crushed).
- When there is extensive paint deterioration (for example, more than five square feet per room), the procedures for dust testing after Standard Treatments apply.

4. Post written notice to tenants asking tenants to report deteriorating paint and informing them whom to contact. Promptly respond to tenants' reports and correct deteriorating paint, with accelerated response in units occupied by a child under age six or a pregnant woman - and in no case longer than 30 days. Do not retaliate against tenants who report deteriorating paint.

APPENDIX C

STANDARD TREATMENTS

Safely repair deteriorated paint. See Appendix D for specifications. Note that the safe repair of deteriorating paint should have already been done under Essential Maintenance Practices. The same procedures apply to stabilizing deteriorated paint identified in the course of Standard Treatments.

Provide smooth and cleanable horizontal surfaces. Rough, pitted, and porous surfaces trap lead dust and make it difficult to thoroughly clean these surfaces. Smooth horizontal surfaces will make it possible for tenants' regular housekeeping to reduce exposure to lead dust (for example, treating window sills and window wells, recoating hardwood floors with polyurethane, replacing or recovering worn out linoleum floors). During treatment of an occupied unit, occupants and their possessions must be protected from lead exposure, but only surfaces that are accessible need to be treated.

Correct conditions in which painted surfaces are rubbing, binding, or being crushed that can produce lead dust (unless the paint is found not to be LBP). Owners shall correct conditions that cause rubbing, binding, or crushing of painted surfaces to protect the integrity of the paint and reduce the generation of lead dust (for example, reworking windows or installing door stops to prevent doors from damaging painted surfaces).

Cover or restrict access to bare residential soil (unless it is found not to be lead-contaminated). Under Title X, only bare soil that is lead-contaminated is defined as a hazard. Owners shall visually check for bare soil when performing treatments on a unit and implement controls to prevent occupant exposure (for example, covering bare soil with gravel, mulch, or sod; physically restricting access to bare soil). In most cases, covering bare soil is an effective control.

Specialized cleaning. Lead-contaminated dust, the foremost path of childhood poisoning, may not be visible to the naked eye and is difficult to clean up. Owners shall conduct specialized cleaning of work areas upon completion of the treatments above. During treatment of an occupied unit, only surfaces that are accessible need to be cleaned.

- 6. Perform sufficient dust tests to ensure safety.** When performing Standard Treatments in vacant units, sufficient dust tests are needed following treatment to provide a reasonable assurance of compliance. Dust tests of the work area are to be performed after completion of Standard Treatments in any unit occupied by a family with a child under age six or a pregnant woman if more than a *de minimus* amount of paint is disturbed.

APPENDIX D

SAMPLE SPECIFICATIONS FOR PAINT REPAIR OF INTERIOR SURFACES WITH LEAD-BASED PAINT

These sample specifications provide an example of one possible set of procedures for repainting interior surfaces that might be covered by lead-based paint. Property owners may choose to develop alternative procedures that are consistent with Essential Maintenance Practices and the guiding principle of controlling lead dust.

These specifications are appropriate for jobs that disturb more than a small area of lead-based paint (more than 2 ft² per building component such as a wall or more than 10% of window, door or trim).

Planning

1. Before deteriorated paint is repaired, correct all underlying causes of paint failure (water damage, plumbing leaks) and ensure that all underlying structural components are sound.
2. If the unit is occupied, schedule work whenever possible so that containment, surface preparation, and cleanup in the work area will be completed in a single day to minimize potential occupant exposure to lead dust and debris.

Containment

1. Remove all furniture and personal items from the work area or cover such items if they remain in the work area with one layer of plastic secured with duct tape or staples.
2. Seal floors, closets/cabinets, and shut off HVAC.
 - ! Cover floor with 4 mil plastic. For smaller jobs that do not involve an entire room, cover the floor with plastic that extends 3 feet outward from the location of the surface disturbance. Tack pads may also be used instead of plastic for these smaller jobs. (Tack pads are sheets of sticky paper that acts like fly paper to capture dust and debris that is created by the work or that sticks to workers shoes.) For larger jobs that involve multiple walls in a room, cover the entire floor.
 - ! Seal all closets and cabinets in work areas with 4 mil plastic.
 - ! Shut off HVAC. For larger jobs also cover HVAC registers in work area with 4 mil plastic.
3. For larger jobs or jobs that are in close proximity to a doorway, cover doorways with 2 layers of 4 mil plastic sheeting. Tape all the way around to secure to the door and slit one to create an entry flap.

4. In work areas where electrical tools may be used, protect electric circuits in use and near work areas with Ground Fault Circuit Interrupters. (This is important because of the need to work "wet" when preparing surfaces for repainting.)
5. Restrict access to affected areas when surface preparation is occurring and until final clean-up is completed to only persons performing, supervising, or inspecting the repainting or cleaning work. Take necessary precautions to prevent migration and "tracking out" of paint/dust particles beyond the work area (e.g., have workers take off any protective clothing such as gloves before leaving the work area).

Surface Preparation

1. Do not use any of the following unsafe paint removal techniques.
 - ! Open flame burning or torching
 - ! Machine sanding or grinding without a HEPA vacuum exhaust tool
 - ! Uncontained hydroblasting or high-pressure washing
 - ! Abrasive blasting or sandblasting without a HEPA vacuum exhaust tool
 - ! Heat guns operating above 1,100°F
2. Do not allow eating, drinking, chewing gum, smoking or the application of cosmetics in the work areas.
3. Before removing loose, flaking, or peeling paint, mist the defective paint with water to the point of saturation without dripping on floor. Wet scrape all loose paint, wallpaper, and plaster. Feather edges with a sponge sanding block. (Dry scraping or dry sanding should not be used.) If desired, rinse and allow to dry.
4. Vacuum the scraped/sanded area using a HEPA vacuum or a vacuum equipped with a high efficiency filter bag.
5. Clean all surfaces to be repainted with a general all-purpose cleaner or a cleaner made specifically for lead. Patch cracks and fill voids to achieve a smooth surface.
6. Daily, collect and contain all particles of removed paint and other debris. Wrap debris in plastic or place in secure container (dumpster).

Paint Application

1. Prime all bare surfaces.
2. Apply a finish coat of paint that is compatible with the primer to all areas needing repainting.

Cleanup

1. When painting is complete, mist the plastic sheeting and remove, carefully collecting all dust within. Roll, fold dirty side in, seal edges with duct tape and dispose of in secured dumpster or storage container.

2. For larger jobs, wash all walls, windows, cabinets and doors, not freshly painted with an all-purpose cleaning detergent.
3. If the room is carpeted and the carpet is not being replaced, clean carpet (vacuum, steam clean, etc.).
4. If the room is not carpeted, clean the hard flooring using a two step process. Vacuum (using a HEPA vacuum or standard vacuum with a high efficiency filter bag) and wet wash using an all purpose cleaner or cleaner made specifically for lead until no visible dust or debris remains.

APPENDIX D (continued)

SAMPLE SPECIFICATIONS FOR PAINT REPAIR OF EXTERIOR SURFACES WITH LEAD-BASED PAINT

These sample specifications provide an example of one possible set of procedures for repainting exterior surfaces that involve preparing surfaces with known or possible lead-based paint. These sample specifications present one approach to repainting in a lead safe manner. Property owners may choose to develop alternative procedures that are consistent with Essential Maintenance Practices and controlling lead dust. It is not necessary to take these precautions when performing small scale spot surface preparation/repainting (less 10 ft²).

Planning

1. Before deteriorated paint is repaired, correct any underlying cause of paint failure (water damage, plumbing leaks) and ensure that underlying structural components are sound.

Containment

1. Secure 4-6 mil plastic on the ground from the base of building extending 10 feet beyond the perimeter of the working surface. Puncture the plastic to anchor ladders securely to the ground. Raise edge of plastic to create a basin to prevent contaminated water runoff. Secure plastic to side of building with tape or other anchoring system. Weight all plastic sheets down with two-by-fours or similar objects.
2. Restrict access to work area to only those persons performing paint repair and cleanup activities.

Surface Preparation

1. Remove deteriorated paint by misting and hand scraping and/or wet hand sanding.
2. Do not use any of the following unsafe paint removal methods.
 - ! Open flame burning or torching
 - ! Machine sanding or grinding without a HEPA vacuum exhaust tool
 - ! Uncontained hydroblasting or high-pressure washing
 - ! Abrasive blasting or sandblasting without a HEPA vacuum exhaust tool
 - ! Heat guns operating above 1,100°F
3. Do not allow eating, drinking, chewing gum, smoking or the application of cosmetics in the work area.
4. Take other necessary precautions as required to contain paint particles and lead dust.
5. Collect and contain all removed paint particles in plastic. Remove plastic daily, mist to keep dust down, fold inward and tape shut. Dispose of in secured container (e.g., locked dumpster).

Paint Application

1. Prime all bare surfaces.
2. Apply finish coat compatible with primer to all areas requiring repainting.

Cleanup

1. Where painting is complete, mist the plastic sheeting with water to keep down the dust. Roll, fold dirty side in, carefully collecting all dust, and seal edges with duct tape and dispose of in secured waste container (dumpster).
2. Remove any visible paint chips or other debris that may have inadvertently ended up on the soil or ground. Dispose of chips and debris in secured waste container.

APPENDIX E

LEAD MAINTENANCE ACTIVITIES RECORD

SAMPLE UNIT FORM

UNIT NUMBER: _____

DATE RESIDENT GIVEN LEAD INFORMATION PAMPHLET : _____

DATES UNIT VISUALLY INPSECTED FOR DETERIORATING PAINT: (needs to be performed at least yearly):_____

RENOVATION/REMODELING/REPAIRS MADE:

Date:

Work Done:

(attach extra pages if necessary)

STANDARD TREATMENTS COMPLETED AT UNIT TURNOVER:

Date:

Treatments:

(attach extra pages if necessary)

TENANT COMPLAINTS RESPONDED TO:

Date:

Response:

(attach extra pages if necessary)

APPENDIX F

GLOSSARY

Abatement: A measure designed to permanently eliminate lead-based paint hazards according to standards established by EPA. Abatement strategies include the removal of lead-based paint, its enclosure (by a method that will last more than 20 years), its encapsulation, replacement of building components coated by lead-based paint, and removal of lead-contaminated soil or overlaying of a durable covering such as pavement on top of the soil, as well as preparation, cleanup, disposal, post abatement clearance testing, record keeping, and, if applicable, monitoring.

Elevated Blood Lead level (EBL): In children, any blood lead level greater than 10 micrograms per deciliter of blood ($\mu\text{g}/\text{dL}$); in adults, any blood lead level greater than 25 $\mu\text{g}/\text{dL}$.

EPA: United States Environmental Protection Agency

HEPA filter or High-Efficiency Particulate Air filter: A filter, which filters a vacuum cleaner's exhaust, capable of removing particles of 0.3 microns or larger from air at 99.97 percent or greater efficiency.

HUD: United States Department of Housing and Urban Development

HUD Guidelines: The Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, (the Guidelines). The Guidelines provide detailed, comprehensive, technical information on how to identify lead-based paint hazards in housing and how to control such hazards safely and efficiently.

Interim controls: A set of measures designed to temporarily reduce human exposure to lead-based paint hazards. Such measures include specialized cleaning to remove lead contaminated dust, paint film stabilization, friction and impact surface treatments, covering of bare soil with grass, sod or mulch and associated repairs, maintenance and management, and resident education programs. Monitoring by owners and reevaluation by professionals is an integral element of interim controls.

Inspection: A surface-by-surface investigation to determine the presence of lead-based paint, and a report of the results.

Inspector: An individual who has completed training from an accredited program and been licensed to: (1) perform inspections to determine and report the presence of lead-based paint on a surface-by-surface basis through the use of on-site testing, such as by an x-ray fluorescence analyzer or through analysis by an accredited laboratory; (2) report the findings of such an inspection; (3) collect environmental samples for laboratory analysis; (4) perform clearance testing and reevaluations; and (5) document successful compliance with lead-based paint hazard control requirements or standards.

Lead-based paint: According to Title X., any paint, varnish, shellac, or other coating that contains lead in excess of $1.0 \text{ mg}/\text{cm}^2$ as measured by x-ray fluorescence detector or laboratory analysis or 0.5 percent by weight ($5,000 \mu\text{g}/\text{g}$, 5,000 ppm, or 5,000 mg/kg) by laboratory analysis. (Local definitions may differ.)

Lead-based paint hazard: A condition in which exposure to lead from lead-contaminated dust, lead-contaminated soil, or from lead-based paint that has deteriorated or coats accessible, friction, or impact surfaces would result in adverse human health effects, as established by EPA.

Lead-based paint hazard control: Activities to control and eliminate lead-based paint hazards, including interim controls, abatement, and complete removal.

Lead-contaminated dust: Surface dust in residences that contains an area or mass concentration of lead in excess of the standard established by the EPA administrator, pursuant to Title IV of the Toxic Substances Control Act. Until the EPA standards are set, the HUD recommendations for leaded dust standards are 100 g/ft² on floors, 500 µg/ft² on interior window sills and 800 µg/ft² on window troughs. As of June, 1998, EPA has proposed using standards of 50 µg/ft² for floors and 250 µg/ft² for window sills. For clearance only, EPA recommends using 800 µg/ft² as the standard for wells.

Lead-contaminated soil: Bare soil on residential property that contains lead in excess of the standard established by the EPA administrator, pursuant to Title IV of the Toxic Substances Control Act. The interim HUD recommendation is 400 µg/g in high-contact play areas, and 2,000 ppm in other bare areas of the yard. Soil above 5,000 µg/g should be abated by removal or paving.

Lead Hazard Control Plan: This plan takes a strategic, property wide approach to addressing lead-based paint hazards in multifamily housing. The plan generally prioritizes highest risk units, such as those with pregnant woman or children under six years of age, for lead hazard control work, and presents a plan to address lead hazards in other units and common areas over a period of time.

Lead-specific detergent: A cleaning agent designed specifically to remove lead dust and particles. High phosphate detergents, such as Tri-Sodium Phosphate (TSP) have been effective in cleaning lead-contaminated surfaces. But many states ban high phosphate detergents because of the harm phosphates may cause to the environment. Other lead-specific detergents have been developed and appear to be successful in limited trials. Research has also found that commonly available household detergents such as Spic and Span Pine, Fantastic Lemon Scent Spray and SOS Extra Strength Ammonia Plus are effective in cleaning up lead contamination, because of their low surface tension. However, companies change the formulation of their products, so while the above mentioned products were shown to have a low surface tension in studies done in 1997, their formulations might change.

Monitoring: Surveillance on a continuing basis by a property owner of lead-based paint hazard control measures implemented on a property. In contrast, reevaluation is the visual examination and environmental sampling conducted by a certified risk assessor or certified inspector of target housing units that have undergone abatement or interim control interventions (and clearance tests) to determine if lead-based paint hazards have reappeared. Monitoring *and* reevaluations are needed for interim controls, intermediate controls or encapsulation, and enclosure.

Multifamily housing: Housing that has more than four dwelling units in one location.

Risk assessment: An on-site investigation of a residential dwelling for lead-based paint hazards. Risk assessment includes investigating the age, history, management, and maintenance of the dwelling, and the number of children under age six and women of child-bearing age who are residents; conducting a

visual assessment; performing limited environmental sampling (dust wipe samples, soil samples, and deteriorated paint samples); and reporting the results that identify acceptable abatement and interim control strategies based on specific conditions and the owner's capabilities for controlling identified lead-based paint hazards.

Risk assessor: A certified individual who has completed training from an accredited training program and who has been certified to 1) perform risk assessments; 2) identify acceptable abatement and interim control strategies for reducing identified lead-based paint hazards 3) perform clearance testing and reevaluations; and 4) document the successful completion of lead-based paint hazard control activities.

Target housing: Any residential unit constructed before 1978, except those with no bedrooms or units developed specifically for the elderly or persons with disabilities, unless any child who is less than six years of age resides or is expected to reside there.

Title X: Title X of the Housing and Community Development Act of 1992 is also known as the Residential Lead-Based Paint Hazard Reduction Act of 1992.

µg (or ug): Micrograms. The prefix micro- means 1/1,000,000 (or one-millionth). A microgram is 1/1,000,000 of a gram and 1/1,000 of a milligram. A microgram is equal to about 35/1,000,000,000 (thirty-five billionths) of an ounce. An ounce is equal to 28,400,000 µg.

XRF analyzer: An instrument that determines lead concentration in milligrams per square centimeter (mg/cm²) using the principle of x-ray fluorescence (XRF).

