

# Lead Inspector Training Handout Booklet



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## LEAD-BASED PAINT HANDOUTS

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DETAILED REPORT OF LEAD PAINT INSPECTION FOR: Frederick Douglass Towers

Inspection Date: 01/17/00 145 Spring Street  
 Report Date: 1/23/00 485 Clinton Street  
 Abatement Level: 1.0 Buffalo, New York  
 Report No. S#01262 - 01/17/00 10:04  
 Total Readings: 166  
 Job Started: 01/17/00 10:04  
 Job Finished: 01/17/00 12:46

Reading No.	Wall	Structure	Location	Member	Paint Cond	Substrate	Color	Lead (mg/cm <sup>2</sup> )	Mode
Exterior Room 001 Elevation A									
121	A	Wall	L Lft		P	Brick	Red	0.0	QM
119	A	Door	Lft	Lft casing	I	Metal	Red	8.3	QM
120	A	Door	Lft	U Ctr	I	Metal	Red	0.4	QM
132	A	WindowLintel	Rgt		P	Metal	Gray	>9.9	QM
Exterior Room 002 Elevation B									
123	B	Door	Rgt	Header	I	Metal	Red	0.1	QM
122	B	Door	Rgt	U Ctr	I	Metal	Red	2.9	QM
Exterior Room 003 Elevation C									
134	B	Window	Ctr	Sash	P	Metal	Gray	0.2	QM
131	B	WindowLintel	Rgt		P	Metal	Gray	>9.9	QM
125	C	Wall	L Lft		I	Brick	Red	0.0	QM
126	C	Door	Lft	Rgt casing	I	Metal	Red	>9.9	QM
127	C	Door	Lft	U Ctr	I	Metal	Red	0.0	QM
130	C	Railing	Lft	Balusters	P	Metal	Green	>9.9	QM
129	C	Railing	Lft	Railing	P	Metal	Green	8.1	QM
124	C	Canopy	Lft		P	Concrete	White	0.0	QM
128	C	Panel	Lft		P	Metal	Red	7.2	QM
133	C	WindowLintel	Ctr		P	Metal	Gray	>9.9	QM
Comment: Reading 128 is adjacent to door.									
Exterior Room 004 Elevation D									
135	D	Window	Rgt	Sash	P	Metal	Gray	0.0	QM
Exterior Room 005 Elevation 2									
151	B	Door	Lft	Rgt casing	P	Metal	Red	6.3	QM
153	B	Door	Lft	U Ctr	P	Metal	Red	0.2	QM
156	B	Railing	Lft	Railing	P	Metal	Green	8.9	QM
152	B	Panel	Lft		P	Metal	Red	3.8	QM
Exterior Room 006 Elevation 4									
160	D	Window	Rgt	Sash	I	Metal	Gray	-0.1	QM
154	D	WindowLintel	Rgt		P	Metal	Gray	7.3	QM
Exterior Room 007 Elevation 1									
155	A	WindowLintel	Lft		P	Metal	Gray	7.3	QM
Exterior Room 008 Elevation 3									
159	C	Wall	L Ctr		I	Brick	Red	-0.1	QM
157	C	Door	Ctr	Header	I	Metal	Red	6.3	QM
158	C	Door	Ctr	U Rgt	I	Metal	Red	0.0	QM
Interior Room 001 Kitchen									
007	A	Ceiling			P	Concrete	OffWhite	-0.1	QM
010	A	Cabinet	Rgt		P	Wood	Pink	-0.1	QM
011	A	Cabinet Wall	Rgt		P	Wood	OffWhite	0.1	QM
008	B	Wall	U Rgt		P	Plaster	OffWhite	0.1	QM
009	D	Wall	L Ctr		P	Plaster	OffWhite	-0.1	QM





Form 9.1  
Model OSHA Written Compliance Plan

Date: \_\_\_/\_\_\_/\_\_\_

This plan has been developed to comply with the OSHA Construction Lead Standard, 29 CFR 1926.62.

1. Location of Project:

This job will take place at the residence located at \_\_\_\_\_ (full address).

A previous lead inspection of this residence by \_\_\_\_\_ (name and address of inspection or risk assessment firm) revealed that lead hazards or lead-based paint are present in the following locations:

\_\_\_\_\_ (location and name of all building components to be treated)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

These building components are coated with lead-based paint and represent a hazard to workers who may disturb it during lead hazard control, renovation, or maintenance activities.

2. Brief Description of Job:

This job will involve the following lead hazard reduction measures (complete all that apply):

Replacement of \_\_\_\_\_ (name all components)

Enclosure of \_\_\_\_\_ (name all components)

Paint removal of \_\_\_\_\_ (name all components)

Encapsulation of \_\_\_\_\_ (name all components)

Paint film stabilization of \_\_\_\_\_ (name all components)

Friction surface treatments of \_\_\_\_\_ (name all components)

Impact surface treatments of \_\_\_\_\_ (name all components)

Dust removal in the following areas: \_\_\_\_\_ (name all areas)

3. Schedule:

The job is expected to start on \_\_\_\_\_ (date) and end on \_\_\_\_\_ (date). This compliance plan will take effect immediately on \_\_\_\_\_ (date). The competent person will conduct worksite visual inspections on a daily basis.

Work will proceed according to the following schedule:

Day 1: Initial setup, followed by:

\_\_\_\_\_ (name all tasks to be completed)

\_\_\_\_\_  
\_\_\_\_\_

Daily cleanup: wet mopping, HEPA vacuuming

Day 2: Tasks

\_\_\_\_\_

Day 3: Tasks

Day 4: Final cleanup and clearance examination

**4. Equipment and Materials:**

HEPA vacuums, cleaning detergents, protective clothing, cotton work gloves, electric power saws, hammers, wrecking bars, pry bars, screwdrivers, plastic sheeting, metal scrapers, compressed air-powered water pumps, rollers, brushes, butyl rubber gloves, respirators, cutting shears, mops, plastic sheeting, paintbrushes, paint rollers.

**5. Crew:**

The work will be completed by a crew of \_\_\_\_\_ (insert number) workers. Crew assignments are as follows:

Crew 1 \_\_\_\_\_ (name) \_\_\_\_\_ (task)

Crew 2 \_\_\_\_\_ (name) \_\_\_\_\_ (task)

**6. Competent Person:**

\_\_\_\_\_ (Name), a certified lead abatement supervisor, will be onsite at all times and will act as the competent person for occupational health and safety issues. The lead supervisor license (or certificate) number is: \_\_\_\_\_. The lead supervisor will conduct daily inspections of the work areas to ensure that control measures, work practices, personal protective equipment, and hygiene facilities are used as prescribed in this document.

**7. Control Measures:**

The primary control methods for this project are (check all that apply):

- \_\_\_\_\_ method substitution (building component replacement, enclosure)
- \_\_\_\_\_ wet methods
- \_\_\_\_\_ wrapping materials to be discarded in plastic
- \_\_\_\_\_ respiratory protection
- \_\_\_\_\_ local exhaust ventilation (needle guns, vacuum blasting)
- \_\_\_\_\_ general room ventilation
- \_\_\_\_\_ on-the-job training
- \_\_\_\_\_ HEPA vacuums
- \_\_\_\_\_ containment (use of plastic barriers)

**8. Technology Considered in Meeting the Permissible Exposure Limit:**

The HUD Guidelines for Evaluation and Control of Lead Hazards in Housing and Protecting Workers and Their Communities From Lead Hazards: A Guide for Protective Work Practices, published by the Society of Occupational and Environmental Health, and other publications were reviewed to determine the appropriate engineering controls to be used in this project. The only specialized equipment that will be utilized for this project are HEPA-filtered vacuum cleaners and \_\_\_\_\_ (name all special equipment).





9. Respirators:

All individuals in the work area will be provided with a NIOSH/MSHA-approved half-mask, air-purifying respirator equipped with HEPA cartridges or a powered air-purifying respirator (if so requested).

Respirators will be provided in the context of a complete respiratory protection program; the written respirator program is attached.

Respirators will be required during (name phases of job for which respirators will be required):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Respirator use during other activities, including initial setup (laying down plastic for containment), and enclosure and encapsulation after surface preparation is not necessary, unless other workers nearby (same interior room or outside wall) are performing activities for which respirators are required.

10. Protective Clothing:

Disposable protective clothing will be worn at all times inside the work area. Protective clothing will be made of breathable fabric to reduce the potential for worker heat stress. If visibly contaminated with dust or paint chips, protective clothing will be vacuumed before it is removed.

11. Hygiene Facilities:

Handwashing facilities will be used to decontaminate workers, since leaded dust levels are expected to be low. Showers are used on jobs that generate high leaded dust levels. The facilities will be located in a portable trailer, which will be parked in the driveway of the residence. The trailer will contain two sinks, a fresh water tank, hot water heater, wastewater collection tank, and easily cleanable floors and benches. Labeled plastic bins with covers will be used to separate disposable protective clothing from street clothing. Hot water, soap, and towels will be provided. Hands and face will be washed before all breaks and at the end of the day. Wastewater will be collected, pretreated onsite with filtration, and disposed of in accordance with prior arrangements made with \_\_\_\_\_ (name of local water and sewage authority).

12. Air Monitoring Data:

Previous data for lead hazard control projects conducted with similar controls, environmental conditions, personnel, and methods were reviewed. Air sampling will not be performed on this job, since typical exposures have already been established for these work crews by:

\_\_\_\_\_ (name of person or firm completing air sampling).

Based on these results, the major exposures to lead will occur during \_\_\_\_\_ (name tasks during which substantial exposures are likely to occur).

In previous work conducted by the same contractor and work crew on similar houses in the same city, using the same methods, maximum personal exposures measured for various activities were:

Maximum Exposure (ug/m <sup>3</sup> )	Task
_____	_____
_____	_____
_____	_____

The environmental conditions in the homes previously abated closely resemble the current location. These maximum exposures are expected to represent "worst-case" exposures because they did not include breaks or setup time; it is expected that 8-hour, time-weighted average exposures on this job will be lower than these figures. However, worker respiratory protection requirements will be based on the maximum exposures to allow for unexpected variations.

**13. Medical Surveillance Program:**

A medical surveillance program is already in place for this work crew. It is supervised by:

Dr. \_\_\_\_\_ (name, address, and phone number of physician and/or firm).

Worker blood lead levels are measured initially before the onset of work, each month for the first 6 months of employment, and every 6 months thereafter.

Blood lead levels for current employees who will be assigned to this job are between:

\_\_\_\_\_  $\mu\text{g/dL}$  to \_\_\_\_\_  $\mu\text{g/dL}$  (list range of blood lead levels) based on the report dated \_\_\_\_\_ (add date for latest medical monitoring report). Worker blood lead increases of 10  $\mu\text{g/dL}$  or greater or any blood lead level greater than 25  $\mu\text{g/dL}$  will trigger an investigation of protective equipment and work practices. All workers on this project are informed of their blood lead levels as soon as they are received.

**14. Training:**

The following workers have been trained using the EPA Worker Training Curriculum and SOEH's *Guide For Protective Work Practices and Effective Worker Training*. The training was conducted by \_\_\_\_\_ (name, address, and phone number of training provider) on \_\_\_\_\_ (insert date).

Trainees	Social Security Number
_____	_____
_____	_____
_____	_____

Plan completed by:

\_\_\_\_\_ (name and signature)

\_\_\_\_\_ (date)

## Example of a Completed Worker Protection OSHA Compliance Plan

### OSHA Written Compliance Plan

Date: 5/19/99

This plan has been developed to comply with the OSHA Construction Lead Standard, 29 CFR 1926.62.

#### 1. Location of Project:

This job will take place at a private residence located at 2952 Channing Way, Anywhere, New York. A previous lead inspection of this residence by Carefree Consultants, Inc., revealed that windows, window frames, and all interior walls in both units are coated with lead-based paint (the range was 1.5 mg/cm<sup>2</sup> to 24 mg/cm<sup>2</sup>). In some areas the existing lead-based paint is deteriorated, with loose and peeling paint chips. The existing lead-based paint represents a hazard to workers who may disturb it during lead hazard control or renovation activities.

#### 2. Brief Description of Job:

The abatement job will involve the removal and replacement of six windows in the residence and the encapsulation or enclosure of kitchen and bathroom walls.

The primary window replacement activities that are expected to generate leaded dust are manual removal of existing wood frame windows and cleaning.

#### 3. Schedule:

Work will proceed according to the following schedule:

##### Window Replacement

Day 1: Initial setup, including placement of plastic sheeting on interior floor and exterior ground surfaces for containment purposes.

Begin manual removal of windows. All window components will be wetted with water mist prior to removal to minimize dust generation.

Daily cleanup: wet sweeping, HEPA vacuuming

Day 2: Complete removal of all windows.

Preparation of window openings for replacement windows—sawing or planing may be required.

Install replacement windows; employ daily cleanup as above.

Apply new caulking around replacement windows; final cleanup.

##### Encapsulation and Enclosure

Day 1: Initial setup, including placement of plastic sheeting on floors, and nonmovable furnishings, appliances, and furniture items.

Prepare surfaces for enclosure system by removing loose and peeling paint. All surfaces will be thoroughly wetted with water mist prior to scraping. Surfaces will be lightly scraped with 9-inch metal paint scrapers.

Daily cleanup: wet sweeping followed by HEPA vacuuming and mopping with detergent solution

Day 2: Install all mineral glass wallcovering material.

Manually apply the initial and final coats of the liquid encapsulant, polymer surfacing system over the mineral glass substrate. Rollers and brushes should be used to apply liquid encapsulant. Allow 8 hours to dry between coats, or until surface is hard and dry to the touch. Install enclosure system (drywall) over encapsulated surface.

Daily cleanup

Day 3: Final cleaning

#### 4. Equipment and Materials:

##### Window Replacement

"Olofson" metal frame, thermal-pane, replacement windows (Model 000-111), HEPA vacuums, trisodium phosphate detergent, protective clothing, cotton work gloves, electric power saws, hammers, wrecking bars, pry bars, screwdrivers, plastic sheeting, and other hand tools as needed.

The abatement job will also include encapsulation or enclosure of all interior walls in the kitchen and bathroom areas. The primary activities that are expected to generate lead dust are manual scraping and cleaning involved with surface preparation.

##### Encapsulation and Enclosure

"Cover It Up" Encapsulant System (Item 333-55), drywall, metal scrapers, compressed air-powered water pumps, rollers, brushes, butyl rubber gloves, respirators, cutting shears, brooms, HEPA vacuums, detergent solution, mops, and plastic sheeting.

The job is expected to start on July 11, 1999, and end on July 13, 1999. This compliance plan will take effect immediately on July 8, 1999. The competent person will conduct worksite visual inspections on a daily basis.

#### 5. Crew:

The replacement of windows and encapsulation enclosure will each be completed by a crew of two workers. Crew assignments are as follows:

R. Smith, T. Jones	Crew 1, Window Replacement
Z. Topp, J. Gonzales	Crew 2, Encapsulation/Enclosure

#### 6. Competent Person:

Mr. Homer Simpson, a licensed lead abatement supervisor, will be onsite at all times and will act as the competent person for occupational health and safety issues. Mr. Simpson's lead supervisor license number is: XMZ 678. Mr. Simpson will conduct daily inspections of the work areas to ensure that control measures, work practices, personal protective equipment, and hygiene facilities are used as prescribed in this document.

#### 7. Control Measures:

The primary control method for this project is method substitution; that is, building component replacement and encapsulation and enclosure will be used for lead-based paint hazard abatement, instead of onsite paint removal.

During replacement, existing window frames, sashes, and troughs will be wetted with water mist prior to removal to reduce airborne dust generation during removal activities. During both replacement and encapsulation, all scraping or sawing activity will be done on wet surfaces; all debris will be wetted down before handling. Building components coated with lead-based paint will be wrapped in plastic sheeting after removal to reduce contamination of workers' hands and clothing.

during handling and disposal. After initial surface preparation for encapsulation and window removal, it is expected that there will be minimal disturbance of existing lead coatings during this job. Wet methods (mopping) and HEPA vacuums will be used during cleaning to minimize worker exposures to lead.

To reduce generation of leaded dust in the work areas, paint chips and dust will be vacuumed on at least a daily basis with HEPA-filtered vacuums. Final cleaning will be accomplished by three successive cleanings consisting of HEPA vacuuming alternated with wet mopping with trisodium phosphate solution. The use of HEPA vacuums and wet cleaning methods will minimize worker lead exposures.

#### 8. *Technology Considered in Meeting the Permissible Exposure Limit:*

The HUD *Guidelines for Evaluation and Control of Lead Hazards in Housing* and other publications were reviewed to determine the appropriate engineering controls to be used in this project. The only specialized equipment that will be utilized for this project are HEPA-filtered vacuum cleaners and air-powered water pumps with high-pressure hoses attached to aerosol-generating nozzles (for water misting of surfaces). Natural ventilation will be utilized, as mechanical ventilation with HEPA-filtered exhaust fans has not been found to reduce worker lead exposures with the methods that will be used during this project.

#### 9. *Respirators:*

All individuals in the work area will be provided with a half-mask, air-purifying respirator equipped with HEPA cartridges or a powered air-purifying respirator if so requested. Respirators will be provided in the context of a complete respiratory protection program; the written respirator program is attached.

Respirators will be required during window removal, surface preparation for encapsulation, any sawing or use of power tools, manual scraping, cleaning activities, and final cleanup. Respirator use during other activities, including initial setup (such as laying down plastic for containment), and enclosure and encapsulation after surface preparation is not necessary, unless other workers nearby (same interior room or outside wall) are performing activities for which respirators are required.

#### 10. *Protective Clothing:*

Disposable protective clothing will be worn at all times inside the work area. Protective clothing will be made of breathable fabric to reduce the potential for worker heat stress. If visibly contaminated with paint dust or chips, protective clothing will be vacuumed before it is removed.

#### 11. *Hygiene Facilities:*

Handwashing facilities will be used to decontaminate workers. The facilities will be located in a portable trailer that will be parked in the driveway or parking area of the residence. The trailer will contain two sinks, a fresh water tank, hot water heater, wastewater collection tank, and easily cleanable floors and benches. Labeled plastic bins with covers will be used to separate disposable protective clothing from street clothing. Hot water, soap, and towels will be provided. Hands and face will be washed before all breaks and at the end of the day. Wastewater will be collected, pretreated onsite with filtration, and disposed of in accordance with prior arrangements made with the Anywhere Municipal Wastewater Treatment Facility. The trailer will be cleaned with a HEPA vacuum and wet washed twice each week.

#### 12. *Air Monitoring Data:*

Previous data for lead abatement projects conducted with similar controls, environmental conditions, personnel, and methods were reviewed. Air sampling will not be performed on this job, since typical exposures have already been established for these work crews (see attached report from previous jobs prepared by XYZ Industrial Hygiene, Inc.). Based on these results, the major exposures to lead will occur during window removal, although significant exposures may also occur during cleanup.

In previous work conducted by the same contractor and work crew on similar houses in the same city, using the same methods, *maximum* personal exposures measured for various activities were: window removal and replacement, 121  $\mu\text{g}/\text{m}^3$ ; encapsulation, 24  $\mu\text{g}/\text{m}^3$ ; cleaning, 110  $\mu\text{g}/\text{m}^3$ ; final cleaning, 50  $\mu\text{g}/\text{m}^3$ ; and initial setup, 6  $\mu\text{g}/\text{m}^3$ . The environmental conditions in the homes previously abated closely resemble the current location. These maximum exposures are expected to represent "worst-case" exposures because they did not include breaks or setup time; it is expected that 8-hour, time-weighted average exposures on this job will be lower than these figures. However, worker respiratory protection requirements will be based on the maximum exposures to allow for unexpected variations.

**13. Medical Surveillance Program:**

A medical surveillance program is already in place for this work crew. It is supervised by Dr. William Jones, a board-certified occupational health physician with Occupational Health Clinic, Inc. (phone: 800-555-1111). Worker blood lead levels are measured initially before the onset of work, each month for the first 6 months of employment, and every 6 months thereafter. Blood lead levels for current employees who will be assigned to this job are 5-12  $\mu\text{g}/\text{dL}$ , based on the May report (see attached). Worker blood lead increases of 10  $\mu\text{g}/\text{dL}$  or more will trigger an investigation of protective equipment and work practices. All workers on this project are informed of their blood lead levels as soon as they are received.

**14. Training:**

All workers have been trained using the EPA Worker Training Curriculum. The training was conducted by Joe Smith, a certified industrial hygienist with XYZ Industrial Hygiene, Inc., and Bill Smith, the competent person, on March 3-5, 1993.

Workers trained on March 3-5 include:

- R. Smith
- T. Jones
- Z. Topp
- J. Gonzales

The job proceeded as planned. However, in the next month, one worker's blood lead level increased from 12 to 25  $\mu\text{g}/\text{dL}$ . This employee was one of the most productive members of the crew. The employer investigated the possible causes of the significant increase (10  $\mu\text{g}/\text{dL}$  or more). After observing and interviewing the worker on a subsequent job, it was clear that the worker was not wearing the half-mask, air-purifying respirator all the time and was not using enough water to moisten surfaces before scraping. A powered air-purifying respirator was provided to increase the worker's understanding of the need for respiratory protection. Additional training and counseling by the physician was also provided to this individual. The following month's blood lead level declined to 16  $\mu\text{g}/\text{dL}$ , but the supervisor continued to conduct special oversight of this individual.

Plan completed by:

\_\_\_\_\_ (name)

\_\_\_\_\_ (signature)

\_\_\_\_\_ (date)

# Lead Hazard Reduction Guidelines

Table 8.1 Interior Worksite Preparation Levels (Not Including Windows)

Description	Level 1	Level 2	Level 3	Level 4
Typical Applications (Hazard Controls)	Dust removal and any abatement or interim control method disturbing no more than 2 square feet of painted surface per room.	Any interim control or abatement method disturbing between 2 and 10 square feet of painted surface per room.	Same as Level 2.	Any interim control or abatement method disturbing more than 10 square feet per room.
Time Limit Per Dwelling	One workday.	One workday.	Five work days.	None.
Resident Location	Inside dwelling, but outside work area. Resident must have lead-safe passage to bathroom, at least one living area, and entry/egress pathways. Alternatively, resident can leave the dwelling during the workday.	Same as Level 1.	Outside the dwelling; but can return in evening after day's work and cleanup are completed. Resident must have safe passage to bathroom, at least one living area, and entry/egress pathways upon return. Alternatively, resident can leave until all work is completed.	Outside the dwelling for duration of project; cannot return until clearance has been achieved.
Containment and Barrier System	Single layer of plastic sheeting on floor extending 5 feet beyond the perimeter of the treated area in all directions. No plastic sheeting on doorways is required, but a low physical barrier (furniture, wood planking) to prevent inadvertent access by resident is recommended. Children should not have access to plastic sheeting (suffocation hazard).	Two layers of plastic on entire floor. Plastic sheet with primitive airlock flap on all doorways. Doors secured from inside the work area need not be sealed. Children should not have access to plastic sheeting (suffocation hazard).	Two layers of plastic on entire floor. Plastic sheet with primitive airlock flap on all doorways to work areas. Doors secured from inside the work area need not be sealed. Overnight barrier should be locked or firmly secured. Children should not have access to plastic sheeting (suffocation hazard).	Two layers of plastic on entire floor. If entire unit is being treated, cleaned, and cleared, individual room doorways need not be sealed. If only a few rooms are being treated, seal all doorways with primitive airlock flap to avoid cleaning entire dwelling. Doors secured from inside the work area need not be sealed.
Warning Signs	Required at entry to room but not on building (unless exterior work is also under way).	Same as Level 1.	Posted at main and Secondary entryways, since resident will not be present to answer the door.	Posted at building exterior near main and secondary entryways.

Table 8.1 Interior Worksite Preparation Levels (Not Including Windows) (continued)

Description	Level 1	Level 2	Level 3	Level 4
Ventilation System	Dwelling ventilation system turned off, but vents need not be sealed with plastic if they are more than 5 feet away from the surface being treated. Negative pressure zones (with “negative air” machines) are not required, unless large supplies of fresh air must be admitted into the work area to control exposures to other hazardous substances for example, solvent vapors).	Turned off and all vents in room sealed with plastic. Negative pressure zones (with “negative air” machines) not required, unless large supplies of fresh air must be admitted into the work area to control exposure to other hazardous substances (for example, solvent vapors).	Same as Level 2.	Same as Level 2.
Furniture	Left in place uncovered if furniture is more than 5 feet from working surface. If within 5 feet, furniture should be sealed with a single layer of plastic or moved for paint treatment. No covering is required for dust removal.	Removed from work area. Large items that cannot be moved can be sealed with a single layer of plastic sheeting and left in work area.	Same as Level 2.	Same as Level 2.
Cleanup	HEPA vacuum, wet wash, and HEPA vacuum all surfaces and floors extending 5 feet in all directions from the treated surface. For dust removal work alone, a HEPA vacuum and wet wash cycle is adequate (i.e., no second pass with a HEPA vacuum is needed). Also wet wash and HEPA vacuum floor in adjacent area(s) used as pathway to work area. Do not store debris inside dwelling overnight; transfer to a locked secure area at the end of each day.	HEPA vacuum, wet wash, and HEPA vacuum all surfaces in room. Also wet wash and HEPA vacuum floor in adjacent area(s) used as pathway to work area. Do not store debris inside dwelling overnight; use a secure locked area.	Remove top layer of plastic from floor and discard. Keep bottom layer of plastic on floor for use on the next day. HEPA vacuum, wet wash, and HEPA vacuum all surfaces in room. Also wet wash and HEPA vacuum floor in adjacent area(s) used as pathway to work area. Do not store debris inside dwelling overnight; use a secure locked area.	Full HEPA vacuum, wet wash, and HEPA vacuum cycle, as detailed in Chapter 14.
Dust Sampling	Clearance only.	Clearance only.	One sample collected outside work area every few jobs plus clearance.	Clearance only.



Note: Primitive air locks are constructed using two sheets of plastic. The first one is taped on the top, the floor, and two sides of doorway. Next, cut a slit about 6 feet high down the middle of the plastic; do not cut the slit all the way down to the floor. Tape the second sheet of plastic across the top of the door only, so that it acts as a flap. The flap should open into the work area.

Table 8.2 Exterior Worksite Preparation Levels (Not Including Windows)

Description	Level 1	Level 2	Level 3
Typical Applications	Any interim control or abatement method disturbing less than 10 square feet of exterior painted surface per dwelling. Also includes soil control work.	Any interim control or abatement method disturbing 10 to 50 square feet of exterior painted surface per dwelling. Also includes soil control work.	Any interim control or abatement method disturbing more than 50 square feet of exterior painted surface per dwelling. Also includes soil control work.
Time Limit Per Dwelling	One day.	None.	None.
Resident Location	Inside dwelling but outside work area for duration of project until cleanup has been completed. Alternatively, resident can leave until all work has been completed. Resident must have lead-safe access to entry/egress pathways.	Relocated from dwelling during workday, but may return after daily cleanup has been completed.	Relocated from dwelling for duration of project until final clearance is achieved.
Containment and Barrier System	One layer of plastic on ground extending 10 feet beyond the perimeter of working surfaces. Do not anchor ladder feet on top of plastic (puncture the plastic anchor ladders securely to ground). For all other exterior plastic surfaces, protect plastic with boards to prevent puncture from falling debris, nails, etc., if necessary. Raise edges of plastic to create a basin to prevent contaminated runoff in the event of unexpected precipitation. Secure plastic to side of building with tape or other anchoring system (no gaps between plastic and building). Weight all plastic sheets down with two-by-fours similar objects. Keep all windows within 20 feet of working surfaces closed, including windows of adjacent structures.	Same as Level 1.	Same as Level 1.

(This table continues on the next page.)

Table 8.2 Exterior Worksite Preparation Levels (Not Including Windows) (continued)

Playground Equipment, Toys, Sandbox	Remove all movable items to a 20-foot distance from working surfaces, Items that cannot be readily moved to a 20-foot distance can be sealed with taped plastic sheeting.	Same as Level 1.	Same as Level 1.
Security	Erect temporary fencing or barrier tape at a 20-foot perimeter around working surfaces (or less if distance to next building or sidewalk is less than 20 feet). If an entryway is within 10 feet of working surfaces, require use of alternative entryway. If practical install vertical containment to prevent exposure. Use a locked dumpster, covered truck, or locked room to store debris before disposal.	Same as Level 1.	Same as Level 1.
Signs	Post warning signs on the building and at a 20-foot perimeter around building (or less if distance to next building or sidewalk is less than 20 feet).	Same as Level 1.	Same as Level 1.
Weather	Do not conduct work if wind speeds are greater than 20 miles per hour. Work must stop and cleanup must occur before rain begins.	Same as Level 1.	Same as Level 1.
Cleanup (See Chapter 14)	Do not leave debris or plastic out overnight if work is not completed. Keep all debris in secured area until final disposal.	Same as Level 1.	Same as Level 1.
Porches	One lead-safe entryway must be made available to residents at all times. Do not treat front and rear porches at the same time if there is not a third doorway.	Front and rear porches can be treated at the same time, unless unprotected workers must use the entryway.	Same as Level 2.

Table 8.3 Window Treatment or Replacement Worksite Preparation

Appropriate Applications	Any Window Treatment or Replacement
Resident Location	Remain inside dwelling but outside work area until project has been completed. Alternatively, can leave until all work has been completed. Resident must have access to lead-safe entry/egress pathway.
Time Limit Per Dwelling	None.
Containment and Barrier System	One layer of plastic sheeting on ground or floor extending 5 feet beyond perimeter of window being treated/replaced. Two layers of plastic taped to interior wall if working on window from outside; if working from the inside, tape two layers of plastic to exterior wall. If working from inside, implement a minimum Interior Worksite Preparation Level 2. Children cannot be present in an interior room where plastic sheeting is located due to suffocation hazard. Do not anchor ladder feet on top of plastic puncture the plastic to anchor ladders securely to ground). For all other exterior plastic surfaces, protect plastic with boards to prevent puncture from falling debris, nails, etc. (if necessary). Secure plastic to side of building with tape or other anchoring system (no gaps between plastic and building). Weigh all plastic sheets down with two-by-fours or similar objects. All windows in dwelling should be kept closed. All windows in adjacent dwellings that are closer than 20 feet to the work area should be kept closed.
Signs	Post warning signs on the building and at a 20-foot perimeter around building (or less if distance to next building or sidewalk is less than 20 feet). If window is to be removed from inside, no exterior sign is necessary.
Security	Erect temporary fencing or barrier tape at a 20-foot perimeter around building (or less if distance to next building or sidewalk is less than 20 feet). Use a locked dumpster, covered truck, or locked room to store debris before disposal.
Weather	Do not conduct work if wind speeds are greater than 20 miles per hour. Work must stop and cleanup must occur before rain begins, or work should proceed from the inside only.
Playground Equipment, Toys, Sandbox	Removed from work area and adjacent areas. Remove all items to a 20-foot distance from dwelling. Large, unmovable items can be sealed with taped plastic sheeting.
Cleaning	If working from inside, HEPA vacuum, wet wash, and HEPA vacuum all interior surfaces within 10 feet of work area in all directions. If working from the exterior, no cleaning of the interior is needed, unless the containment is breached. Similarly, no cleaning is needed on the exterior if all work is done on the interior and the containment is not breached. If containment is breached, then cleaning on both sides of the window should be performed. No debris or plastic should be left out overnight if work is not completed. All debris must be kept in a secure area until final disposal.



## Abatement Plan/ Occupant Protection/Abatement report

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

This plan has been developed to comply with EPA regulation, 40 CFR Part 745.227 and with the OSHA Construction Lead Standard, 29 CFR 1926.62.

The occupant protection plan/written compliance plan should be prepared in advance of abatement and the abatement report is compiled after completion of abatement.

### 1. An occupant protection plan shall:

- (a) Be unique to the residential dwelling or child-occupied facility;
- (b) Developed prior to abatement; and
- (c) Be a detailed, written description of the measures and management procedures that will be taken during the abatement to protect the occupants of the building from exposure to lead hazards.

The occupant protection/abatement plan shall be prepared by a certified supervisor or certified project designer. The contents for the abatement report are compiled following abatement and will include the occupant protection plan and written compliance plan. Please refer to specimen attached.

### An Abatement report shall include:

- (a) Name and certification number of the individual who prepared the plan;
- (b) Name and certification numbers of all individuals working at the site;
- (c) Anticipated start and finish dates;
- (d) Daily work hours at the project;
- (e) Copy of job specifications relating to the project;
- (f) Location of the site;
- (g) Type of structure;
- (h) Sequence of work activity;
- (i) Abatement methods to be used;
- (j) Diagram or floor plan showing abatement locations;
- (k) Enclosure and containment methods and locations;
- (l) Locations of rooms and components where abatement will occur;
- (m) Reason for the selection of particular abatement methods for each component;
- (n) If encapsulants are to be used, product usage information;
- (o) Clean up measures; and

(p) Name and address of individual conduction clearance testing.

**2. Location of Project:**

This job will take place at the residence located at \_\_\_\_\_ (full Address).

A previous lead inspection of this residence by \_\_\_\_\_ (name and address of inspection or risk assessment firm?)

\_\_\_\_\_ (Location and name of all building components to be treated)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

These building components are coated with lead-based paint and represent a hazard to workers who may disturb it during lead hazard control, renovation, and maintenance activities.

**The following work practices shall be restricted during abatement:**

- (1) Open-flame burning or torching of lead-based paint is prohibited;
- (2) Machine sanding or grinding or abrasive blasting or sandblasting of lead-based paint is prohibited unless with High Efficiency Particulate Air(HEPA) exhaust control which removes particles of less than 0.3 microns or larger from the air at 99.97 percent or greater efficiency;
- (3) Dry scraping of lead based paint is permitted only in conjunction with heat guns or around electrical outlets or when treating defective paint spots totaling no more than 2 square feet in nay one room, hallway or stairwell, or totaling no more than 20 square feet on exterior surfaces; and
- (4) Operating a heat gun on lead-based paint is permitted only at temperatures below 1100 degrees Fahrenheit.

**3. Schedule:**

This job is expected to start on \_\_\_\_\_ (date) and end on \_\_\_\_\_ (date). This compliance plan will take effect immediately on \_\_\_\_\_ (date). The competent person will conduct worksite visual inspections on a daily basis.

Work will proceed according to the following schedule:

Day 1: Initial setup, followed by:  
\_\_\_\_\_ (name all tasks to be completed)

\_\_\_\_\_

\_\_\_\_\_

Daily cleanup: wet mopping, HEPA vacuuming

Day 2: Tasks

Day 3: Tasks

Day 4: Final Cleanup and clearance examination

#### **4. Equipment and Materials:**

HEPA vacuums, cleaning detergents, protective clothing, cotton work gloves, electric power saws, hammers, wrecking bars, pry bars, screwdrivers, plastic sheeting, metal scrapers, compressed air-powered water pumps, rollers, brushes, butyl rubber gloves, respirators, cutting shears, mops, plastic sheeting, paintbrushes, paint rollers.

#### **5. Crew:**

The work will be completed by a crew of \_\_\_\_\_ (insert number) workers. Crew assignments are as follows:

Crew 1 \_\_\_\_\_ (name) \_\_\_\_\_ (task)

Crew 2 \_\_\_\_\_ (name) \_\_\_\_\_ (task)

#### **6. Competent Person:**

\_\_\_\_\_ (Name), a certified lead abatement supervisor, will be onsite at all times and will act as the competent person for occupational health and safety issues. The lead supervisor license (or certificate) number is: \_\_\_\_\_. The lead supervisor will conduct daily inspections of the work areas to ensure that control measures, work practices, personal protective equipment, and hygiene facilities are used as prescribed in this document.

#### **7. Control Measures:**

The primary control methods for this project are (check all that apply):

\_\_\_ method substitution (building component replacement, enclosure)

\_\_\_ wet methods

\_\_\_ wrapping materials to be discarded in plastic

\_\_\_ respiratory protection

\_\_\_ local exhaust ventilation (needle guns, vacuum blasting)

\_\_\_ general room ventilation

\_\_\_ on-the-job training

\_\_\_ HEPA vacuums

\_\_\_\_\_ containment (use of plastic barriers)

### 8. Description of Job:

Work practices should follow work site prep levels as excerpted from HUD's worksite preparation tables 8.1, 8.2, 8.3 from Guidelines for the Evaluation & Control of Lead Based Paint Hazards in Housing Chapter 8.

This job will involve the following lead hazard reduction measures (complete all that apply):

- Replacement of \_\_\_\_\_ (name all components)
- Enclosure of \_\_\_\_\_ (name all components)
- Paint removal of \_\_\_\_\_ (name all components)
- Encapsulation of \_\_\_\_\_ (name all components)
- Paint film stabilization of \_\_\_\_\_ (name all components)
- Friction surface treatments of \_\_\_\_\_ (name all components)
- Impact surface treatments of \_\_\_\_\_ (name all components)
- Dust removal in the following areas: \_\_\_\_\_ (name all areas)

### 9. Technology Considered in Meeting the Permissible Exposure Limit:

The HUD Guidelines for Evaluation and Control of Lead Hazards in Housing and Protecting Workers and Their Communities From Lead Hazards: A Guide for Protective Work Practices, published by the Society of Occupational and Environmental Health, and other publications were reviewed to determine the appropriate engineering controls to be used in this project. The only specialized equipment that utilized for this project are HEPA-filtered vacuum cleaners and \_\_\_\_\_ (name all special equipment).

### 10. Respirators:

All individuals in the work area will be provided with a NIOSH/MSHA-approved half-mask, air-purifying respirator equipped with HEPA cartridges or a powered air-purifying respirator (if so requested).

Respirators will be provided in the context of a complete respiratory protection program; the written respirator program is attached.

Respirators will be required during (name phases of job for which respirators will be required):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Respirator use during other activities, including initial setup (laying down plastic for containment), and enclosure and encapsulation after surface preparation is not necessary, unless other workers nearby (same interior room or outside wall) are performing activities for which respirators are required.



### 11. Protective Clothing:

Disposable protective clothing will be worn at all times inside the work area. Protective clothing will be made of breathable fabric to reduce the potential for workers heat stress. If visibly contaminated with dust or paint chips, protective clothing will be vacuumed before it is removed.

### 12. Hygiene Facilities:

Hand washing facilities will be used to decontaminate workers, since leaded dust levels are expected to be low. Showers are used on jobs that generate high lead dust levels. The facilities will be located in a portable trailer, which will be parked in the driveway of the residence. The trailer will contain two sinks, a fresh water tank, hot water tank, wastewater collection tank, and easily cleanable floors and benches. Labeled plastic bins with covers will be used to separate disposable clothing from street clothing. Hot water, soap, and towels will be provided. Hands and face will be washed before all breaks and at the end of the day. Wastewater will be collected, pretreated onsite with filtration, and disposed of in accordance with prior arrangements made with \_\_\_\_\_ (name of local water and sewage authority).

### 13. Air monitoring Data:

Previous data for lead hazard control projects conducted with similar controls, environmental conditions, personnel, and methods were reviewed. Air sampling will not be performed on this job, since typical exposures have already been established for these work crews by:

\_\_\_\_\_ (Name of person or firm completing air sampling)

Based on these results, the major exposure to lead will occur during \_\_\_\_\_ (name tasks during which substantial exposures are likely to occur).

In previous work conducted by the same contractor and work crew on similar houses in the same city, using the same methods, maximum personal exposures measured for the various activities were:

Maximum Exposure (ug/m3)	Task
_____	_____
_____	_____
_____	_____

The environmental conditions in the homes previously abated closely resemble the current location. These maximum exposures are expected to represent "worst-case" exposures because they did not include breaks or setup time; it is expected that 8-hour, time-weighted average exposures on this job will be lower than these figures. However, worker respiratory protection requirements will be based on the maximum exposures to allow for unexpected variations.

### 14. Medical Surveillance Program:

A medical surveillance program is already in place for this work crew. It is supervised by:

Dr. \_\_\_\_\_ (name, address, and phone number of physician and/or firm).

Worker blood lead levels are measured initially before the onset of work, each month for the first 6 months of employment, and every 6 months thereafter.

Blood lead levels for current employees who will be assigned to this job are between:

\_\_\_\_\_ ug/dL to \_\_\_\_\_ ug/dL (list range of blood lead levels) based on the report dated \_\_\_\_\_ (add date for the latest medical monitoring report). Worker blood lead increases of 10 ug/dL or greater or any blood lead level greater than 25 ug/dL will trigger an investigation of protective equipment and work practices. All workers on this project are informed of their blood lead levels as soon as they are received.

### 15. Training:

The following workers have been trained using the EPA Training Curriculum. The training was conducted by \_\_\_\_\_ (name, address, and phone number of training provider) on \_\_\_\_\_ (insert date).

**Trainees**

**Social Security Number**

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Plan completed by:

\_\_\_\_\_ (name and signature)

\_\_\_\_\_ (date)

## **Abatement Report:**

1) Start and completion dates of abatement.

Start date: \_\_\_\_\_

Completion date: \_\_\_\_\_

2) The name and address of each certified firm conducting the abatement and the name of each supervisor assigned to the abatement project.

Firm name: \_\_\_\_\_

Firm Address: \_\_\_\_\_

Supervisor's name: \_\_\_\_\_

3) The occupant protection plan. (See attached)

4) The name, address, and signature of each certified risk assessor or inspector conducting clearance sampling and the date of clearance testing.

Certified risk assessor/inspector name: \_\_\_\_\_

Certified risk assessor/inspector address: \_\_\_\_\_

Certified risk assessor/inspector signature: \_\_\_\_\_

Date of clearance testing: \_\_\_\_\_

5) The results of clearance testing and all soil analyses (if applicable) and the name of each recognized laboratory that conducted the analyses.

Clearance results: \_\_\_\_\_ (see attached)

Laboratory name: \_\_\_\_\_

6) A detailed written description of the abatement, including the abatement methods used, locations of rooms and/or components where abatement occurred, reason for selecting particular abatement methods for each component, and any suggested monitoring of encapsulants or enclosures. (See attached)





U. S. ENVIRONMENTAL PROTECTION AGENCY

# NOTIFICATION OF LEAD-BASED PAINT ABATEMENT ACTIVITIES

**Important:** A representative of the certified firm may complete this sample form or a similar form when notifying EPA. Consult the *Instructions for Notifying EPA Commencement of Lead-Based Paint Abatement Activities* when preparing abatement notification. Please type or print responses in black or blue ink only.

**A. Type of Notification** Please indicate the type of notification.

Original       Updated       Cancellation

**B. Emergency Notification**  No       Yes, if yes include documentation showing evidence of an EBL determination or a copy of the Federal/State/Tribal/Local emergency abatement order.

**C. Activity Start and End Dates** Specify the dates you will begin and end lead-based paint activity.

If necessary, estimate end date using your best professional judgment.      Start date: \_\_\_\_\_      End date: \_\_\_\_\_  
Month/Day/Year      Month/Day/Year

**D. Description of Activity** This section relates to the building where abatement work will be performed.

Type of Building:     Single Family Dwelling     Multi-Family Dwelling     Child-Occupied Facility

Property name (if applicable): \_\_\_\_\_

Property Address including apartment and/or unit number(s): \_\_\_\_\_

\_\_\_\_\_  
Street Address      City      State      Zip Code

Square footage/acreage to be abated: \_\_\_\_\_

Please write a brief description of abatement project to be performed. (Enclose additional paper if necessary)

**E. Firm Information**

Name: \_\_\_\_\_ Firm's Certification Number: \_\_\_\_\_

Address: \_\_\_\_\_  
Street Address      City      State      Zip Code

Phone Number: \_\_\_\_\_

**F. Certified Supervisor's Information**

Name: \_\_\_\_\_

EPA Certification Number: \_\_\_\_\_ (Check here  if working under interim certification and enter the identification number from your course completion certificate in this space)

**G. Firm Affirmation** Please note that this form is incomplete without a signature.

I hereby attest and affirm that the information included on this notification form is true and accurate to the best of my belief and knowledge. I acknowledge that any approval authorized pursuant to this notification will be subject to revocation if issuance was based on incorrect or inadequate information that materially affected the decision to issue the approval.

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date Signed: \_\_\_\_\_

For information on EPA and other lead programs, see the web site:  
<http://www.epa.gov/lead/>







**EPA**

United States  
Environmental Protection Agency

Office of Pollution Prevention  
and Toxics

**Lead-based Paint for Residential Contractors.  
Lead-Based Paint is Household Waste.  
August 2000**

**Agency Policy**

Aiming to further reduce lead poisoning in children, the Environmental Protection Agency (EPA) clarified that contractors can manage residential lead-based paint (LBP) waste as household waste. Allowing LBP waste to be managed this way makes it more affordable for people to reduce lead in and around their homes.

**Contractor Waste**

Residential contractors frequently work on residential dwellings like single family homes, apartment buildings, row houses, military barracks, or college dormitories. They routinely generate LBP waste during lead abatement, remodeling, or rehabilitation work on these residences. The waste consists mostly of building parts, such as doors, window frames, painted woodwork, and paint chips. Because the standards were unclear, contractors who needed to dispose of lead-based paint waste were uncertain about how to properly manage it.

EPA's policy statement allows contractor-generated LBP waste to be disposed of as household waste. Household waste is regular garbage or trash that is disposed of as municipal waste, and managed according to state and local requirements. Residents are already entitled to manage their own LBP waste in this manner. Extending this option to contractors simplifies abatement work and lowers its cost, which will allow more lead paint removal from more homes nationwide. Consequently, people's homes everywhere will be safer for both children and adults.

**Safe Handling**

EPA encourages everyone who handles lead-based paint to follow several common sense measures:

Collect paint chips, dust, dirt, and rubble in plastic trash bags for disposal. Store larger LBP building parts in containers until ready for disposal. If possible, use a covered mobile dumpster (such as a roll-off container) to store LBP debris until the job is done. Contact local solid waste authorities to determine where and how LBP debris can be disposed of.

The Toxic Substances Control Act (TSCA) contains training and certification requirements that contractors also should learn and follow. These requirements are under TSCA 402/404, and can be found on the Internet at <http://www.epa.gov/lead/leadcert.htm>. Note also that the US Department of Housing and Urban Development (HUD) established guidelines for contractors performing lead-based paint activities (see <http://www.hud.gov/lea/learules.html>).

**Proposed TSCA Standards**

EPA intends to pursue additional measures to promote LBP abatement activities. For example, in 1998 the Agency proposed new standards under TSCA that would replace existing Resource Conservation and Recovery Act (RCRA) hazardous waste regulations covering the disposal of LBP. This change, if adopted, would provide greater waste management flexibility and efficiency in numerous circumstances where lead-based paint is generated. Full details of the LBP proposal are available on the Internet at <http://www.epa.gov/lead>.

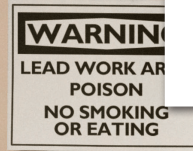
**For More Information**

For general information on lead-based paint and lead-based paint hazards, call the National Lead Information Center at 1 800 424 LEAD (5323). You may also obtain information by calling the RCRA Hotline. Callers within the Washington Metropolitan Area must dial 703-412-9810 or TDD 703-412-3323 (hearing impaired). Long-distance callers may call 1-800-424-9346 or TDD 1-800-553-7672. The RCRA Hotline operates weekdays, 9:00 a.m. to 6:00 p.m. Write to the RCRA Information Center (5305W), US EPA, Ariel Rios Building, 1200 Pennsylvania Avenue, NW, Washington, DC 20460.





# THE LEAD-SAFE CERTIFIED GUIDE TO RENOVATE RIGHT



1-800-424-LEAD (5323)

[epa.gov/getleadsafe](http://epa.gov/getleadsafe)

EPA-740-K-10-001

Revised September 2011



Important lead hazard information for families, child care providers and schools.



This document may be purchased through the U.S. Government Printing Office online at [bookstore.gpo.gov](http://bookstore.gpo.gov) or by phone (toll-free): 1-866-512-1800.

Environmental Education Associates, Inc.



# IT'S THE LAW!

Federal law requires contractors that disturb painted surfaces in homes, child care facilities and schools built before 1978 to be certified and follow specific work practices to prevent lead contamination. Always ask to see your contractor's certification.

Federal law requires that individuals receive certain information before renovating more than six square feet of painted surfaces in a room for interior projects or more than twenty square feet of painted surfaces for exterior projects or window replacement or demolition in housing, child care facilities and schools built before 1978.

- Homeowners and tenants: renovators must give you this pamphlet before starting work.
- Child care facilities, including preschools and kindergarten classrooms, and the families of children under six years of age that attend those facilities: renovators must provide a copy of this pamphlet to child care facilities and general renovation information to families whose children attend those facilities.

## WHO SHOULD READ THIS PAMPHLET?

### This pamphlet is for you if you:

- Reside in a home built before 1978.
- Own or operate a child care facility, including preschools and kindergarten classrooms, built before 1978, or
- Have a child under six years of age who attends a child care facility built before 1978.

### You will learn:

- Basic facts about lead and your health.
- How to choose a contractor, if you are a property owner.
- What tenants, and parents/guardians of a child in a child care facility or school should consider.
- How to prepare for the renovation or repair job.
- What to look for during the job and after the job is done.
- Where to get more information about lead.

### This pamphlet is not for:

- **Abatement projects.** Abatement is a set of activities aimed specifically at eliminating lead or lead hazards. EPA has regulations for certification and training of abatement professionals. If your goal is to eliminate lead or lead hazards, contact the National Lead Information Center at **1-800-424-LEAD (5323)** for more information.
- **“Do-it-yourself”** projects. If you plan to do renovation work yourself, this document is a good start, but you will need more information to complete the work safely. Call the National Lead Information Center at **1-800-424-LEAD (5323)** and ask for more information on how to work safely in a home with lead-based paint.
- **Contractor education.** Contractors who want information about working safely with lead should contact the National Lead Information Center at **1-800-424-LEAD (5323)** for information about courses and resources on lead-safe work practices.



## RENOVATING, REPAIRING, OR PAINTING?



- Is your home, your building, or the child care facility or school your children attend being renovated, repaired, or painted?
- Was your home, your building, or the child care facility or school where your children under six years of age attend built before 1978?

If the answer to these questions is YES, there are a few important things you need to know about lead-based paint.

This pamphlet provides basic facts about lead and information about lead safety when work is being done in your home, your building or the child care facility or school your children attend.

### The Facts About Lead

- Lead can affect children's brains and developing nervous systems, causing reduced IQ, learning disabilities, and behavioral problems. Lead is also harmful to adults.
- Lead in dust is the most common way people are exposed to lead. People can also get lead in their bodies from lead in soil or paint chips. Lead dust is often invisible.
- Lead-based paint was used in more than 38 million homes until it was banned for residential use in 1978.
- Projects that disturb painted surfaces can create dust and endanger you and your family. Don't let this happen to you. Follow the practices described in this pamphlet to protect you and your family.

## LEAD AND YOUR HEALTH

### Lead is especially dangerous to children under six years of age.

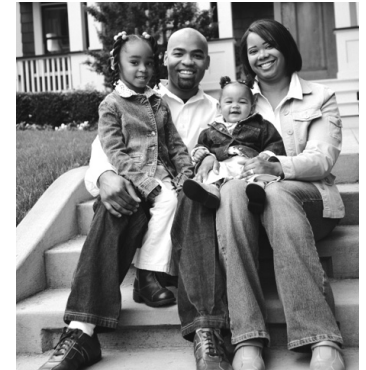
Lead can affect children's brains and developing nervous systems, causing:

- Reduced IQ and learning disabilities.
- Behavior problems.

### Even children who appear healthy can have dangerous levels of lead in their bodies.

Lead is also harmful to adults. In adults, low levels of lead can pose many dangers, including:

- High blood pressure and hypertension.
- Pregnant women exposed to lead can transfer lead to their fetuses. Lead gets into the body when it is swallowed or inhaled.
- People, especially children, can swallow lead dust as they eat, play, and do other normal hand-to-mouth activities.
- People may also breathe in lead dust or fumes if they disturb lead-based paint. People who sand, scrape, burn, brush, blast or otherwise disturb lead-based paint risk unsafe exposure to lead.



### What should I do if I am concerned about my family's exposure to lead?

- A blood test is the only way to find out if you or a family member already has lead poisoning. Call your doctor or local health department to arrange for a blood test.
- Call your local health department for advice on reducing and eliminating exposures to lead inside and outside your home, child care facility or school.
- Always use lead-safe work practices when renovation or repair will disturb painted surfaces.

For more information about the health effects of exposure to lead, visit the EPA lead website at [epa.gov/lead/pubs/leadinfo](http://epa.gov/lead/pubs/leadinfo) or call 1-800-424-LEAD (5323).

### There are other things you can do to protect your family every day.

- Regularly clean floors, window sills, and other surfaces.
- Wash children's hands, bottles, pacifiers, and toys often.
- Make sure children eat a healthy, nutritious diet consistent with the USDA's dietary guidelines, that helps protect children from the effects of lead.
- Wipe off shoes before entering the house.

## WHERE DOES THE LEAD COME FROM?

### Dust is the main problem.

The most common way to get lead in the body is from dust. Lead dust comes from deteriorating lead-based paint and lead-contaminated soil that gets tracked into your home. This dust may accumulate to unsafe levels. Then, normal hand-to-mouth activities, like playing and eating (especially in young children), move that dust from surfaces like floors and window sills into the body.

### Home renovation creates dust.

Common renovation activities like sanding, cutting, and demolition can create hazardous lead dust and chips.

### Proper work practices protect you from the dust.

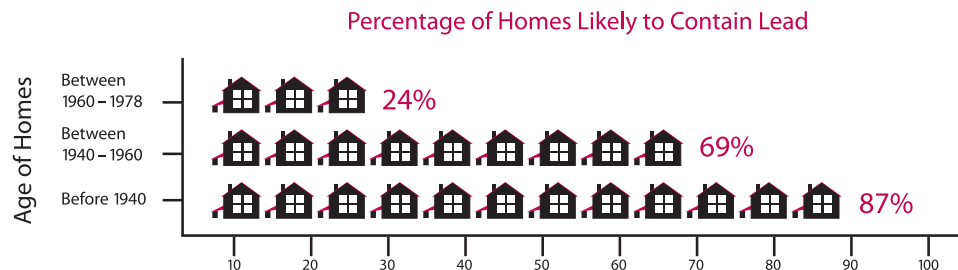
The key to protecting yourself and your family during a renovation, repair or painting job is to use lead-safe work practices such as containing dust inside the work area, using dust-minimizing work methods, and conducting a careful cleanup, as described in this pamphlet.

### Other sources of lead.

Remember, lead can also come from outside soil, your water, or household items (such as lead-glazed pottery and lead crystal). Contact the National Lead Information Center at 1-800-424-LEAD (5323) for more information on these sources.



## CHECKING YOUR HOME FOR LEAD-BASED PAINT



### Older homes, child care facilities, and schools are more likely to contain lead-based paint.

Homes may be single-family homes or apartments. They may be private, government-assisted, or public housing. Schools are preschools and kindergarten classrooms. They may be urban, suburban, or rural.

### You have the following options:

#### You may decide to assume your home, child care facility, or school contains lead.

Especially in older homes and buildings, you may simply want to assume lead-based paint is present and follow the lead-safe work practices described in this brochure during the renovation, repair, or painting job.

#### You can hire a certified professional to check for lead-based paint.

These professionals are certified risk assessors or inspectors, and can determine if your home has lead or lead hazards.

- A certified inspector or risk assessor can conduct an inspection telling you whether your home, or a portion of your home, has lead-based paint and where it is located. This will tell you the areas in your home where lead-safe work practices are needed.
- A certified risk assessor can conduct a risk assessment telling you if your home currently has any lead hazards from lead in paint, dust, or soil. The risk assessor can also tell you what actions to take to address any hazards.
- For help finding a certified risk assessor or inspector, call the National Lead Information Center at 1-800-424-LEAD (5323).

You may also have a certified renovator test the surfaces or components being disturbed for lead by using a lead test kit or by taking paint chip samples and sending them to an EPA-recognized testing laboratory. Test kits must be EPA-recognized and are available at hardware stores. They include detailed instructions for their use.

## FOR PROPERTY OWNERS

### You have the ultimate responsibility for the safety of your family, tenants, or children in your care.

This means properly preparing for the renovation and keeping persons out of the work area (see p. 8). It also means ensuring the contractor uses lead-safe work practices.

Federal law requires that contractors performing renovation, repair and painting projects that disturb painted surfaces in homes, child care facilities, and schools built before 1978 be certified and follow specific work practices to prevent lead contamination.

### Make sure your contractor is certified, and can explain clearly the details of the job and how the contractor will minimize lead hazards during the work.

- You can verify that a contractor is certified by checking EPA's website at [epa.gov/getleadsafe](http://epa.gov/getleadsafe) or by calling the National Lead Information Center at 1-800-424-LEAD (5323). You can also ask to see a copy of the contractor's firm certification.
- Ask if the contractor is trained to perform lead-safe work practices and to see a copy of their training certificate.
- Ask them what lead-safe methods they will use to set up and perform the job in your home, child care facility or school.
- Ask for references from at least three recent jobs involving homes built before 1978, and speak to each personally.

### Always make sure the contract is clear about how the work will be set up, performed, and cleaned.

- Share the results of any previous lead tests with the contractor.
- You should specify in the contract that they follow the work practices described on pages 9 and 10 of this brochure.
- The contract should specify which parts of your home are part of the work area and specify which lead-safe work practices will be used in those areas. Remember, your contractor should confine dust and debris to the work area and should minimize spreading that dust to other areas of the home.
- The contract should also specify that the contractor will clean the work area, verify that it was cleaned adequately, and re-clean it if necessary.

### If you think a worker is not doing what he is supposed to do or is doing something that is unsafe, you should:

- Direct the contractor to comply with regulatory and contract requirements.
- Call your local health or building department, or
- Call EPA's hotline 1-800-424-LEAD (5323).

If your property receives housing assistance from HUD (or a state or local agency that uses HUD funds), you must follow the requirements of HUD's Lead-Safe Housing Rule and the ones described in this pamphlet.

## FOR TENANTS AND FAMILIES OF CHILDREN UNDER SIX YEARS OF AGE IN CHILD CARE FACILITIES AND SCHOOLS

### You play an important role ensuring the ultimate safety of your family.

This means properly preparing for the renovation and staying out of the work area (see p. 8).

Federal law requires that contractors performing renovation, repair and painting projects that disturb painted surfaces in homes built before 1978 and in child care facilities and schools built before 1978, that a child under six years of age visits regularly, to be certified and follow specific work practices to prevent lead contamination.

The law requires anyone hired to renovate, repair, or do painting preparation work on a property built before 1978 to follow the steps described on pages 9 and 10 unless the area where the work will be done contains no lead-based paint.

### If you think a worker is not doing what he is supposed to do or is doing something that is unsafe, you should:

- Contact your landlord.
- Call your local health or building department, or
- Call EPA's hotline 1-800-424-LEAD (5323).

If you are concerned about lead hazards left behind after the job is over, you can check the work yourself (see page 10).



## PREPARING FOR A RENOVATION

### The work areas should not be accessible to occupants while the work occurs.

The rooms or areas where work is being done may need to be blocked off or sealed with plastic sheeting to contain any dust that is generated. Therefore, the contained area may not be available to you until the work in that room or area is complete, cleaned thoroughly, and the containment has been removed. Because you may not have access to some areas during the renovation, you should plan accordingly.

### You may need:

- Alternative bedroom, bathroom, and kitchen arrangements if work is occurring in those areas of your home.
- A safe place for pets because they too can be poisoned by lead and can track lead dust into other areas of the home.
- A separate pathway for the contractor from the work area to the outside in order to bring materials in and out of the home. Ideally, it should not be through the same entrance that your family uses.
- A place to store your furniture. All furniture and belongings may have to be moved from the work area while the work is being done. Items that can't be moved, such as cabinets, should be wrapped in plastic.
- To turn off forced-air heating and air conditioning systems while the work is being done. This prevents dust from spreading through vents from the work area to the rest of your home. Consider how this may affect your living arrangements.

You may even want to move out of your home temporarily while all or part of the work is being done.

Child care facilities and schools may want to consider alternative accommodations for children and access to necessary facilities.



## DURING THE WORK

Federal law requires contractors that are hired to perform renovation, repair and painting projects in homes, child care facilities, and schools built before 1978 that disturb painted surfaces to be certified and follow specific work practices to prevent lead contamination.

The work practices the contractor must follow include these three simple procedures, described below:

**1. Contain the work area.** The area must be contained so that dust and debris do not escape from that area. Warning signs must be put up and plastic or other impermeable material and tape must be used as appropriate to:

- Cover the floors and any furniture that cannot be moved.
- Seal off doors and heating and cooling system vents.
- For exterior renovations, cover the ground and, in some instances, erect vertical containment or equivalent extra precautions in containing the work area.

These work practices will help prevent dust or debris from getting outside the work area.

**2. Avoid renovation methods that generate large amounts of lead-contaminated dust.** Some methods generate so much lead-contaminated dust that their use is prohibited.

They are:

- Open flame burning or torching.
- Sanding, grinding, planing, needle gunning, or blasting with power tools and equipment not equipped with a shroud and HEPA vacuum attachment.
- Using a heat gun at temperatures greater than 1100°F.



There is no way to eliminate dust, but some renovation methods make less dust than others. Contractors may choose to use various methods to minimize dust generation, including using water to mist areas before sanding or scraping; scoring paint before separating components; and prying and pulling apart components instead of breaking them.

**3. Clean up thoroughly.** The work area should be cleaned up daily to keep it as clean as possible. When all the work is done, the area must be cleaned up using special cleaning methods before taking down any plastic that isolates the work area from the rest of the home. The special cleaning methods should include:

- Using a HEPA vacuum to clean up dust and debris on all surfaces, followed by
- Wet wiping and wet mopping with plenty of rinse water.

When the final cleaning is done, look around. There should be no dust, paint chips, or debris in the work area. If you see any dust, paint chips, or debris, the area must be re-cleaned.

## FOR PROPERTY OWNERS: AFTER THE WORK IS DONE

When all the work is finished, you will want to know if your home, child care facility, or school where children under six attend has been cleaned up properly.

### EPA Requires Cleaning Verification.

In addition to using allowable work practices and working in a lead-safe manner, EPA's RRP rule requires contractors to follow a specific cleaning protocol. The protocol requires the contractor to use disposable cleaning cloths to wipe the floor and other surfaces of the work area and compare these cloths to an EPA-provided cleaning verification card to determine if the work area was adequately cleaned. EPA research has shown that following the use of lead-safe work practices with the cleaning verification protocol will effectively reduce lead-dust hazards.

### Lead-Dust Testing.

EPA believes that if you use a certified and trained renovation contractor who follows the LRRP rule by using lead-safe work practices and the cleaning protocol after the job is finished, lead-dust hazards will be effectively reduced. If, however, you are interested in having lead-dust testing done at the completion of your job, outlined below is some helpful information.

#### What is a lead-dust test?

- Lead-dust tests are wipe samples sent to a laboratory for analysis. You will get a report specifying the levels of lead found after your specific job.

#### How and when should I ask my contractor about lead-dust testing?

- Contractors are not required by EPA to conduct lead-dust testing. However, if you want testing, EPA recommends testing be conducted by a lead professional. To locate a lead professional who will perform an evaluation near you, visit EPA's website at [epa.gov/lead/pubs/locate](http://epa.gov/lead/pubs/locate) or contact the National Lead Information Center at **1-800-424-LEAD (5323)**.
- If you decide that you want lead-dust testing, it is a good idea to specify in your contract, before the start of the job, that a lead-dust test is to be done for your job and who will do the testing, as well as whether re-cleaning will be required based on the results of the test.
- You may do the testing yourself. If you choose to do the testing, some EPA-recognized lead laboratories will send you a kit that allows you to collect samples and send them back to the laboratory for analysis. Contact the National Lead Information Center for lists of EPA-recognized testing laboratories.

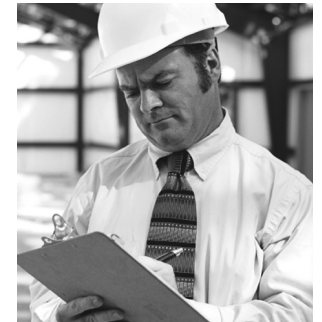


## FOR ADDITIONAL INFORMATION

You may need additional information on how to protect yourself and your children while a job is going on in your home, your building, or child care facility.

The National Lead Information Center at **1-800-424-LEAD (5323)** or [epa.gov/lead/nlic](http://epa.gov/lead/nlic) can tell you how to contact your state, local, and/or tribal programs or get general information about lead poisoning prevention.

- State and tribal lead poisoning prevention or environmental protection programs can provide information about lead regulations and potential sources of financial aid for reducing lead hazards. If your state or local government has requirements more stringent than those described in this pamphlet, you must follow those requirements.
- Local building code officials can tell you the regulations that apply to the renovation work that you are planning.
- State, county, and local health departments can provide information about local programs, including assistance for lead-poisoned children and advice on ways to get your home checked for lead.



The National Lead Information Center can also provide a variety of resource materials, including the following guides to lead-safe work practices. Many of these materials are also available at [epa.gov/lead/pubs/brochure](http://epa.gov/lead/pubs/brochure)

- Steps to Lead Safe Renovation, Repair and Painting.
- Protect Your Family from Lead in Your Home
- Lead in Your Home: A Parent's Reference Guide



For the hearing impaired, call the Federal Information Relay Service at 1-800-877-8339 to access any of the phone numbers in this brochure.



## EPA CONTACTS

### EPA Regional Offices

EPA addresses residential lead hazards through several different regulations. EPA requires training and certification for conducting abatement and renovations, education about hazards associated with renovations, disclosure about known lead paint and lead hazards in housing, and sets lead-paint hazard standards.

Your Regional EPA Office can provide further information regarding lead safety and lead protection programs at [epa.gov/lead](http://epa.gov/lead).

#### Region 1

(Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, Vermont)  
Regional Lead Contact  
U.S. EPA Region 1  
Suite 1100  
One Congress Street  
Boston, MA 02114-2023  
(888) 372-7341

#### Region 2

(New Jersey, New York, Puerto Rico, Virgin Islands)  
Regional Lead Contact  
U.S. EPA Region 2  
2890 Woodbridge Avenue  
Building 205, Mail Stop 225  
Edison, NJ 08837-3679  
(732) 321-6671

#### Region 3

(Delaware, Maryland, Pennsylvania, Virginia, Washington, DC, West Virginia)  
Regional Lead Contact  
U.S. EPA Region 3  
1650 Arch Street  
Philadelphia, PA  
19103-2029  
(215) 814-5000

#### Region 4

(Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee)  
Regional Lead Contact  
U.S. EPA Region 4  
61 Forsyth Street, SW  
Atlanta, GA 30303-8960  
(404) 562-9900

#### Region 5

(Illinois, Indiana, Michigan, Minnesota, Ohio, Wisconsin)  
Regional Lead Contact  
U.S. EPA Region 5  
77 West Jackson Boulevard  
Chicago, IL 60604-3507  
(312) 886-6003

#### Region 6

(Arkansas, Louisiana, New Mexico, Oklahoma, Texas)  
Regional Lead Contact  
U.S. EPA Region 6  
1445 Ross Avenue,  
12th Floor  
Dallas, TX 75202-2733  
(214) 665-7577

#### Region 7

(Iowa, Kansas, Missouri, Nebraska)  
Regional Lead Contact  
U.S. EPA Region 7  
901 N. 5th Street  
Kansas City, KS 66101  
(913) 551-7003

#### Region 8

(Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming)  
Regional Lead Contact  
U.S. EPA Region 8  
1595 Wynkoop Street  
Denver, CO 80202  
(303) 312-6312

#### Region 9

(Arizona, California, Hawaii, Nevada)  
Regional Lead Contact  
U.S. Region 9  
75 Hawthorne Street  
San Francisco, CA 94105  
(415) 947-8021

#### Region 10

(Alaska, Idaho, Oregon, Washington)  
Regional Lead Contact  
U.S. EPA Region 10  
1200 Sixth Avenue  
Seattle, WA 98101-1128  
(206) 553-1200

## OTHER FEDERAL AGENCIES

### CPSC

The Consumer Product Safety Commission (CPSC) protects the public from the unreasonable risk of injury or death from 15,000 types of consumer products under the agency's jurisdiction. CPSC warns the public and private sectors to reduce exposure to lead and increase consumer awareness. Contact CPSC for further information regarding regulations and consumer product safety.

### CPSC

4330 East West Highway  
Bethesda, MD 20814  
Hotline 1-(800) 638-2772  
[cpsc.gov](http://cpsc.gov)

### CDC Childhood Lead Poisoning Prevention Branch

The Centers for Disease Control and Prevention (CDC) assists state and local childhood lead poisoning prevention programs to provide a scientific basis for policy decisions, and to ensure that health issues are addressed in decisions about housing and the environment. Contact CDC Childhood Lead Poisoning Prevention Program for additional materials and links on the topic of lead.

### CDC Childhood Lead Poisoning Prevention Branch

4770 Buford Highway, MS F-40  
Atlanta, GA 30341  
(770) 488-3300  
[cdc.gov/nceh/lead](http://cdc.gov/nceh/lead)

### HUD Office of Healthy Homes and Lead Hazard Control

The Department of Housing and Urban Development (HUD) provides funds to state and local governments to develop cost-effective ways to reduce lead-based paint hazards in America's privately-owned low-income housing. In addition, the office enforces the rule on disclosure of known lead paint and lead hazards in housing, and HUD's lead safety regulations in HUD-assisted housing, provides public outreach and technical assistance, and conducts technical studies to help protect children and their families from health and safety hazards in the home. Contact the HUD Office of Healthy Homes and Lead Hazard Control for information on lead regulations, outreach efforts, and lead hazard control research and outreach grant programs.

### U.S. Department of Housing and Urban Development

Office of Healthy Homes and Lead Hazard Control  
451 Seventh Street, SW, Room 8236  
Washington, DC 20410-3000  
HUD's Lead Regulations Hotline  
(202) 402-7698  
[hud.gov/offices/lead/](http://hud.gov/offices/lead/)



## SAMPLE PRE-RENOVATION FORM

This sample form may be used by renovation firms to document compliance with the Federal pre-renovation education and renovation, repair, and painting regulations.

### Occupant Confirmation

Pamphlet Receipt

- I have received a copy of the lead hazard information pamphlet informing me of the potential risk of the lead hazard exposure from renovation activity to be performed in my dwelling unit. I received this pamphlet before the work began.

\_\_\_\_\_  
Printed Name of Owner-occupant

\_\_\_\_\_  
Signature of Owner-occupant

\_\_\_\_\_  
Signature Date

### Renovator's Self Certification Option (for tenant-occupied dwellings only)

Instructions to Renovator: If the lead hazard information pamphlet was delivered but a tenant signature was not obtainable, you may check the appropriate box below.

- Declined** – I certify that I have made a good faith effort to deliver the lead hazard information pamphlet to the rental dwelling unit listed below at the date and time indicated and that the occupant declined to sign the confirmation of receipt. I further certify that I have left a copy of the pamphlet at the unit with the occupant.
- Unavailable for signature** – I certify that I have made a good faith effort to deliver the lead hazard information pamphlet to the rental dwelling unit listed below and that the occupant was unavailable to sign the confirmation of receipt. I further certify that I have left a copy of the pamphlet at the unit by sliding it under the door or by (fill in how pamphlet was left).

\_\_\_\_\_  
Printed Name of Person Certifying Delivery

\_\_\_\_\_  
Attempted Delivery Date

\_\_\_\_\_  
Signature of Person Certifying Lead Pamphlet Delivery

\_\_\_\_\_  
Unit Address

**Note Regarding Mailing Option** — As an alternative to delivery in person, you may mail the lead hazard information pamphlet to the owner and/or tenant. Pamphlet must be mailed at least seven days before renovation. Mailing must be documented by a certificate of mailing from the post office.



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**Form 7.1**     Single Family Housing LBP Testing Data Sheet – Completed

**Form 7.2**     Calibration Check Test Results – Blank

**Form 7.2**     Calibration Check Test Results – Completed

**Form 7.3**     Substrate Correction Values – Blank

**Form 7.3**     Substrate Correction Values – Completed

**Form 7.4**     Selection of Housing Units – Blank

**Form 7.4**     Selection of Housing Units – Completed

**Form 7.5**     Multi-family Housing LBP Testing Data Sheet – Blank

**Form 7.5**     Multi-family Housing LBP Testing Data Sheet – Completed

**Form 7.6**     Multi-family Housing: Component Type Report – Blank

**Form 7.6**     Multi-family Housing: Component Type Report – Completed

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# Chapter 7: Lead-Based Paint Inspection

## How to Do It

1. See Chapters 3, 5 and 16 for guidance on when a lead-based paint inspection is appropriate. A lead-based paint inspection will determine:
  - ◆ Whether lead-based paint is present in a house, dwelling unit, residential building, housing development, or child-occupied facility, including common areas and exterior surfaces; and
  - ◆ If present, which building components contain lead-based paint.

The U.S. Department of Housing and Urban Development (HUD) and the U.S. Environmental Protection Agency (EPA) define an inspection as a surface-by-surface investigation to determine the presence of lead-based paint and the provision of a report explaining the results of the investigation. The sampling protocols in this chapter fulfill that definition.

2. The client should hire a certified (licensed) lead-based paint inspector or risk assessor (see 40 CFR part 745). Lists of certified lead-based paint inspectors and risk assessors can be obtained from the EPA website at: [www.epa.gov/oppt/lead/pubs/traincert.htm](http://www.epa.gov/oppt/lead/pubs/traincert.htm). Laboratories recognized by EPA, under its National Lead Laboratory Accreditation Program (NLLAP), for analysis of lead in paint can also be found at [www.epa.gov/oppt/lead/pubs/nllap.htm](http://www.epa.gov/oppt/lead/pubs/nllap.htm).
3. The inspector should use the HUD/EPA standard for lead-based paint of equal to or greater than 1.0 mg/cm<sup>2</sup> or 0.5% by weight, as defined by Title X of the Housing and Community Development Act of 1992 (unless HUD and EPA have lowered the standard). If the applicable standard in the jurisdiction is more stringent, the procedures in this chapter will need to be modified. For purposes of the HUD/EPA Lead-Based Paint Disclosure Rule, 1.0 milligrams per square centimeter (mg/cm<sup>2</sup>) or 0.5% by weight are the standards that must be used (see Appendix 6) as of the publication of this edition of these *Guidelines*. If a State, Tribe or local government has an EPA-authorized plan for certifying lead-based paint inspectors and has lower lead standards, those lower lead standards would apply to inspections (but not to the Lead Disclosure Rule; paint with lead below the federal threshold is not considered lead-based paint for purposes of that Rule).

There are other analytical techniques that may be used by a laboratory with NLLAP recognition for analysis of lead in paint.

4. Obtain the *XRF Performance Characteristic Sheet (PCS)* for the X-Ray Fluorescence (XRF) lead paint analyzer to be used in the inspection. It will specify the ranges where XRF results are positive, negative or inconclusive, the calibration check tolerances, and other important information. Only devices with a posted PCS may be used for lead paint inspections. If you use a XRF without a current PCS, or do not follow the requirements of the PCS, the work will be considered invalid, and not an inspection or paint testing, as applicable, and the work will have to be re-done. To obtain the appropriate *XRF Performance Characteristic Sheet*, contact the National Lead Information Center Clearinghouse (1-800-424-LEAD) or download it from the Internet at [www.hud.gov/offices/lead/lbp/hudguidelines/allpcs.pdf](http://www.hud.gov/offices/lead/lbp/hudguidelines/allpcs.pdf). *XRF Performance Characteristic Sheets* have been developed by HUD and EPA for most commercially available XRFs. (Hearing- or speech-challenged individuals may access this number through TTY by calling the toll-free Federal Relay Service at 800-877-8339.) *Report lead paint amounts in mg/cm<sup>2</sup>* because this unit of measurement does not depend on the number of layers of



non-lead-based paint and can usually be obtained without damaging the painted surface. All measurements of lead in paint should be in mg/cm<sup>2</sup>, unless the surface area cannot be measured or if all paint cannot be removed from the measured surface area. In such cases, concentrations may be reported in weight percent (%) or parts per million by weight (ppm).

5. If the XRF instrument has a radioactive source, follow the radiation safety procedures explained in this chapter, and as required by the U.S. Nuclear Regulatory Commission and applicable State and local regulations when using XRF instruments.
6. Take at least three calibration check readings before beginning the inspection. Additional calibration check readings should be made at least every 4 hours, after inspection work has been completed for the day, or according to the manufacturer's instructions, whichever is most frequent. If the instrument is to be turned off during the course of an inspection, calibration checks should always be done before the instrument is turned off and again after it has been warmed up (calibration checks do not need to be done each time an instrument enters an automatic "sleep" state while still powered on).
7. When conducting an inspection in a multi-family housing development or building, obtain a complete list of all housing units, common areas, and exterior site areas. Determine which can be grouped together for inspection purposes based on similarity of construction materials and common painting histories. In each group of similar units, similar common areas, and similar exterior sites, determine the minimum number of each to be inspected from the tables in this chapter. Random selection procedures are explained in this chapter.
8. For each unit, common area, and exterior site to be inspected, identify all testing combinations in each room equivalent. A testing combination is characterized by the room equivalent, the component type, and the substrate. A room equivalent is an identifiable part of a residence (e.g., room, house exterior, foyer, etc.). Painted surfaces include any surface coated with paint, shellac, varnish, stain, paint covered by wallpaper, or any other coating. Wallpaper should be assumed to cover paint unless building records or physical evidence indicates no paint is present.
9. Take at least one individual XRF reading on each testing combination in each room equivalent. For walls, take at least four readings (one reading on each wall) in each room equivalent. A different visible color does not by itself result in a separate testing combination. It is not necessary to take multiple XRF readings on the same spot, as was previously recommended, unless the PCS requires such for the XRF instrument being used.
10. Determine whether to correct the XRF readings for substrate interference by consulting the *XRF Performance Characteristic Sheet*. If test results for a given substrate fall within the substrate correction range, take readings on that bare substrate scraped completely clean of paint, as explained in Section IV.E of this chapter.
11. Classify XRF results for each testing combination. Readings above the upper limit of the inconclusive range are considered positive, while readings below the lower limit of the inconclusive range are considered negative. Readings within the inconclusive range (including its boundary values) are classified as inconclusive. Some instruments have a threshold value separating ranges of readings considered positive from readings considered negative for a given substrate. Readings at or above the threshold are considered positive, while readings below the threshold are considered negative.
12. In single-family housing inspections, all inconclusive readings must be confirmed in the laboratory, unless the client wishes to assume that all inconclusive results are positive. Such an assumption may reduce the cost of an inspection, but will probably increase subsequent abatement, interim control, and maintenance costs, because laboratory analysis often shows that testing combinations with inconclusive readings do not in fact contain lead-based paint. Inconclusive readings cannot be assumed to be negative.

13. In multi-family dwelling inspections, XRF readings are aggregated across units and room equivalents by component type. Use the flowchart provided in this chapter (Figure 7.3) to make classifications of all testing combinations or component types in the development as a whole, based on the percentages of positive, negative, and inconclusive readings.
14. If the inspector collected paint-chip samples for analysis, they must be analyzed by a laboratory recognized under the EPA's National Lead Laboratory Accreditation Program (NLLAP) for analysis of lead in paint, and collected in accordance with ASTM E 1729, Standard Practice for Field Collection of Dried Paint Samples for Subsequent Lead Determination, or equivalent. Paint-chip samples are collected when the overall results for a component type are inconclusive by XRF, or were not measured by XRF, or if the inspector chooses to do so if the paint is deteriorated. They may be collected by a properly trained and certified inspector or others, if permitted by State law and recognized by EPA. Paint-chip samples should contain all layers of paint (not just peeled layers) and must always include the bottom layer. If results will be reported in mg/cm<sup>2</sup>, including a small amount of substrate with the sample will not significantly bias results. Substrate material should not, however, be included in samples reported in weight percent. Paint from 4 square inches (25 square centimeters) should provide a sufficient quantity for laboratory analysis. Smaller surface areas may be used, but only if the laboratory indicates that a smaller sample is acceptable. In all cases, the surface area sampled must be recorded.
15. The client or client's representative should evaluate the quality of the inspection using the procedures in this chapter.
16. The inspector will prepare an inspection report indicating if and where lead-based paint is located in the unit or the housing development (or building). Inspection reports contain detailed information on the following:
  - ◆ Who performed the inspection;
  - ◆ Date(s);
  - ◆ Inspector's certification number;
  - ◆ All XRF readings;
  - ◆ Classification of all surfaces into positive or negative (but not inconclusive) categories, based on XRF and laboratory analyses;
  - ◆ Specific information on the XRF and laboratory methodologies;
  - ◆ Housing unit and sampling location identifiers;
  - ◆ Results of any laboratory analyses; and
  - ◆ Additional information described in Section IV of this chapter.
17. The report should include a statement that the presence of lead-based paint and the report must be disclosed by the owner (seller / lessor) to prospective new buyers (purchasers) and renters (lessees) of target housing prior to obligation under a sales contract or lease, except that the disclosure does not have to be made when the property is being leased if it is lead-based paint free. (See the discussion of Lead Disclosure Rule in Appendix 6.) The suggested language in the boxes in Section I.A.4 may be used.

## I. Introduction

### A. Purpose

This chapter explains methods for performing lead-based paint inspections in housing to determine:

- ◆ Whether lead-based paint is present in a house, dwelling unit, residential building, housing development, or child-occupied facility, including common areas and exterior surfaces; and
- ◆ If present, which building components contain lead-based paint.

The information presented here is intended for both inspectors and persons who purchase inspection services (clients). This chapter provides an inspection protocol, methods for determining the quality of an inspection, and information on how to locate certified lead inspectors.

**Defining lead-based paint.** Title X (“ten”) of the Housing and Community Development Act of 1992, defines lead-based paint inspection (in two places, with slightly different formatting of the same wording) as:

a surface-by-surface investigation to determine the presence of lead-based paint as provided in section 302(c) of the Lead-Based Paint Poisoning Prevention Act and the provision of a report explaining the results of the investigation. (15 U.S.C. 2681(7), for use by EPA and its stakeholders; and 42 U.S.C. 4851(12), for use by HUD and its stakeholders)

This definition in Title X is based on, and mentions, the earlier Lead-Based Paint Poisoning Prevention Act (Public Law 91-695), enacted in 1971, which described an inspection in its section 302(c) as being an:

inspection of all intact and nonintact interior and exterior painted surfaces of housing subject to this section for lead-based paint using an approved x ray fluorescence analyzer, atomic absorption spectroscopy, or comparable approved sampling or testing technique. A certified inspector or laboratory shall certify in writing the precise results of the inspection. If the results equal or exceed a level of 1.0 milligrams per centimeter squared or 0.5 percent by weight, the results shall be provided to any potential purchaser or tenant of the housing. (42 U.S.C. 4822(c))

The sampling and testing protocols in this chapter fulfill the definition of lead-based paint inspection, in providing guidance on selecting building components of housing to sample and/or test them and the methods for determining whether they are coated with lead-based paint.

Section 302(c) of the 1971 act, above, established the threshold for lead-based paint as a surface concentration (or “loading”) on the basis of weight of lead per area of surface, at 1 mg/cm<sup>2</sup>, or a weight concentration on the basis of a weight of lead per weight of paint, at 0.5% by weight. That section also has wording providing for HUD to review the lead-based paint threshold and reduce it if “reliable technology makes feasible the detection of a lower level and medical evidence supports the imposition of a lower level.” As of the publication of this edition of these *Guidelines*, in response to a petition received by the EPA on August 10, 2009, HUD and EPA are collaboratively considering whether to lower the threshold level of lead-based paint; they are also looking into whether to lower the lead dust hazard standards.

HUD, consistent with EPA, CDC and OSHA, notes that paint with lead that is deteriorated or disturbed, even if its lead content is below the current EPA and HUD standards, may still pose a human health hazard, this depends largely on how much lead-contaminated dust is generated from the paint and where

that dust is dispersed. Accordingly, HUD recommends, in these *Guidelines*, using lead-safe methods of working with paint that is known or presumed to have lead in it, whether or not it is lead-based paint.

### 1. Disclosure of Inspections

Federal law requires the disclosure of knowledge of lead-based paint and lead-based paint hazards, or that there is no such knowledge, when owners sell or rent most pre-1978 housing, known as “target” housing. Therefore the results (that is, reports and records) of lead-based paint inspections (as discussed in this Chapter) and risk assessments (as discussed in Chapter 5) must be disclosed to prospective renters (lessees, tenants) of target housing prior to entering into a new lease and renters renewing an old lease (unless the results were previously disclosed to them), if lead-based paint is found, and to prospective purchasers prior to obligation under a sales contract for target housing, whether or not lead-based paint is found. If the inspection described in this chapter finds that lead-based paint is not present in units which are to be leased, the dwelling unit and, for multi-family housing, all other dwelling units characterized by the inspection are exempt from disclosure requirements for rental actions. However, for dwelling units which are being sold (not leased), the owner still has certain legal responsibilities to fulfill under Federal law *even if no lead-based paint is identified*. See the HUD and EPA regulations in 24 CFR part 35, and 40 CFR part 745, respectively, for additional details, and see the regulatory overview in Appendix 6.

You may contact the National Lead Information Center Clearinghouse (1-800-424-LEAD) to obtain HUD and EPA brochures, question-and-answer booklets, the regulations mentioned above (and the descriptive preamble to those regulations), and other information on lead-based paint disclosure. (Hearing- or speech-challenged individuals may access this number through TTY by calling the toll-free Federal Relay Service at 800-877-8339.) See section IV for recommended inspection report language regarding these disclosure requirements.

### 2. Limitation of this Inspection Protocol

The protocol described here is not intended for investigating housing units where children with elevated blood lead levels are currently residing. Such a protocol can be found in chapter 16 or from the State or local health department; the most stringent investigation protocol should be used.

### 3. Documentation of Results

The complete set of forms provided at the end of this chapter for use in single-family and multi-family housing may be used; similar forms or computerized reports may also be used to document the results of inspections.

### 4. Owner’s Use of Inspection Reports in Lead Disclosure

In the final report on the inspection, the inspector should advise the client (typically the property owner or manager) that, if the housing is target housing, the owner has certain responsibilities under the Lead Disclosure Rule when the property is being sold or leased, or when a lease is being renewed with revisions. In general, lead disclosure is required in these circumstances, except that disclosure does not have to be made when the target housing is being leased if the inspection has found that it is lead-based paint free.

See the discussion of Lead Disclosure Rule (24 CFR part 35, subpart A, or 40 CFR part 745, subpart F) in Appendix 6 of these *Guideline*). The suggested language in the boxes in Section IV.I.3, Final Report, below, may be used in the cases of lead-based paint being identified, or not identified, in target housing.

## B. Qualifications of Inspectors and Laboratories

### 1. Where to Find Inspectors and Laboratories

Lists of EPA and State-licensed (certified) inspectors can be obtained from the National Lead Information Center Clearinghouse at 800-424-LEAD (5323). The Clearinghouse can also help you locate the appropriate State agency contact to obtain lists of State-licensed (certified) inspectors and other information.

You can go to EPA's Lead Abatement Professionals page, <http://www.epa.gov/oppt/lead/pubs/traincert.htm>, and click on the map for individual states and tribes which are authorized by EPA to operate their own lead certification programs. For other states, you can click on the Where You Live link on the left column, or go directly to <http://www.epa.gov/oppt/lead/pubs/leadoff1.htm>, to find the contact information for the EPA Regional Lead Coordinators.

Laboratories recognized under the EPA's National Lead Laboratory Accreditation Program (NLLAP) are updated monthly, and are available at <http://www.epa.gov/oppt/lead/pubs/nllaplist.pdf>.

### 2. Qualifications of Inspectors

An inspector must be certified (licensed) by the State or tribe where the testing is to be done if the State or tribe has an EPA-authorized inspection certification program. If the State does not have such a program, the inspector must be certified by EPA. The list of EPA-authorized states and tribes is at the EPA's Lead Abatement Professionals web page identified above.

## C. Other Sources of Information

Other sources of information and materials needed for using this protocol include an XRF Performance Characteristic Sheet, U.S. Nuclear Regulatory Commission and State radiation protection regulations, and standards issued by the American Society for Testing and Materials (ASTM). The National Institute of Standards and Technology (NIST) produces Standard Reference Materials (SRMs) and provides supporting documentation for these materials.

### 1. XRF Performance Characteristic Sheet

An XRF Performance Characteristic Sheet (PCS) defines acceptable operating specifications and procedures for each model of X-Ray Fluorescence (XRF) lead-based paint analyzer. An inspector must follow the XRF Performance Characteristic Sheet for all inspection activities. XRF PCSs are available from the National Lead Information Center Clearinghouse or through the HUD website at <http://www.hud.gov/offices/lead/lbp/hudguidelines/allpcs.pdf>. If an XRF analyzer does not have a PCS, or if it is not used, or if the data are not analyzed, in accordance with its PCS, the actions undertaken with it are neither a lead-based paint inspection nor paint testing.

## 2. XRF Radiation Protection Regulations

Regulations that govern radioactive sources used in XRFs are available from State radiation protection agencies (see <http://nrc-stp.ornl.gov>) and the Nuclear Regulatory Commission (NRC). The NRC may be contacted toll-free at (800) 368-5642, or <http://www.nrc.gov/about-nrc/organization/fsmefuncdesc.html>. (Hearing- or speech-challenged individuals may access this number through TTY by calling the toll-free Federal Relay Service at 800-877-8339.) Employers of individuals who use XRF that have radioactive sources should also see OSHA's Ionizing Radiation standard, 29 CFR 1910.1096, and NRC's Standards for Protection Against Radiation, 10 CFR Part 20.

## 3. ASTM and NIST Standards

Other helpful information and standards are available from ASTM International at (610) 832-9585, or [www.astm.org/Standard/index.shtml](http://www.astm.org/Standard/index.shtml) including:

- ✦ ASTM E1605 Standard Terminology Relating to Lead in Buildings
- ✦ ASTM E1613 Standard Test Method for Determination of Lead by Inductively Coupled Plasma Atomic Emission Spectrometry (ICP-AES), Flame Atomic Absorption Spectrometry (FAAS), or Graphite Furnace Atomic Absorption Spectrometry (GFAAS) Techniques
- ✦ ASTM E 1645 Standard Practice for Preparation of Dried Paint Samples by Hotplate or Microwave Digestion for Subsequent Lead Analysis
- ✦ ASTM E1729 Standard Practice for Field Collection of Dried Paint Samples for Subsequent Lead Determination
- ✦ ASTM E1775 Standard Guide for Evaluating Performance of On-Site Extraction and Field-Portable Electrochemical or Spectrophotometric Analysis for Lead
- ✦ ASTM E1979 Standard Practice for Ultrasonic Extraction of Paint, Dust, Soil, and Air Samples for Subsequent Determination of Lead
- ✦ ASTM E2052 Standard Guide for Evaluation, Management, and Control of Lead Hazards in Facilities (As of the publication of this edition of these *Guidelines*, this withdrawn standard being reinstated pending comprehensive updates.)
- ✦ ASTM E2120 Standard Practice for Performance Evaluation of the Portable X-Ray Fluorescence Spectrometer for the Measurement of Lead in Paint Films

NIST (301-975-2200 or <http://www.nist.gov/>; hearing- or speech-challenged individuals may access this number through TTY by calling the toll-free Federal Relay Service at 800-877-8339.) has developed a series of paint films that have known amounts of lead-based paint and can be used for calibration check purposes. As of the publication of this edition of these *Guidelines*, NIST Standard Reference Material 2579a is available (see section IV.D, below).

## D. Paint Testing for Inspections and Risk Assessments

While risk assessments determine the presence of lead-based paint *hazards*, inspections determine the presence of *lead-based paint*. The paint chip sampling and measurement procedures used in

lead-based paint inspections are similar to the procedures for paint sampling used in risk assessment. However, the number of paint measurements or samples taken for a paint inspection is, generally, considerably greater than the number of paint samples required for a risk assessment, because risk assessments measure lead in paint are only made for deteriorated paint, not all paint. Inspections measure lead in both deteriorated and intact paint, which involves many more surfaces. Risk assessments always note the condition of paint on surfaces; inspections may not. For dwellings in good condition, a full risk assessment may be unnecessary, and a lead hazard screen risk assessment may be conducted. In a lead hazard screen or risk assessment, the certified risk assessor tests only painted surfaces in deteriorated condition for their lead content. See chapter 5 for methods to determine the condition of paint when conducting a risk assessment.

### E. Most Common Inspection Method

Portable XRF lead-based paint analyzers are the most common primary analytical method for inspections in housing because of the demonstrated ability to determine if lead-based paint is present on many surfaces and to measure the paint without destructive sampling or paint removal, as well as the high speed and low cost per sample (see Figure 7.1). Portable XRF instruments expose a building component to electromagnetic radiation in the form of X-rays or gamma radiation. In response to radiation, each element, including lead, emits energy at a fixed and characteristic level. Emission of characteristic x-rays is called "X-Ray Fluorescence," or XRF. The energy released is measured by the instrument's fluorescence detector and displayed. The inspector must then compare this displayed value (reading) with the threshold or inconclusive range specified in the XRF Performance Characteristic Sheet (PCS) for the specific XRF instrument being used, and the specific substrate beneath the painted surface (see section IV.F, below). For instrument – substrate combinations that have a threshold:



**FIGURE 7.1** One type of XRF instrument displays its reading of a testing combination.

- ◆ If the reading is less than the threshold, then the reading is considered negative for lead-based paint.
- ◆ If the reading is greater than or equal to the threshold, then the reading is considered positive.

For instrument – substrate combinations that have an inconclusive range:

- ◆ If the reading is less than the lower boundary of the inconclusive range, then the reading is considered negative.
- ◆ If the reading is within the inconclusive range, including its boundary values, then the reading is considered inconclusive.
- ◆ If the reading is greater than the upper boundary of the inconclusive range, then the reading is considered positive.

As of the publication of this edition of these *Guidelines*, the detection elements and software of all of the XRF analyzers for which HUD has issued PCSs, all of the inconclusive ranges and/or thresholds are based on 1.0 mg/cm<sup>2</sup>, so that positive and negative readings are consistent with the HUD definition of

lead-based paint for identification and disclosure purposes. Laboratory analysis is recommended to confirm inconclusive XRF results, as mentioned in Section I.G, below; alternatively, the paint can be presumed to be lead-based paint.

#### **F. XRF Performance Characteristic Sheets and Manufacturer's Instructions**

When an XRF instrument is used for testing paint in target housing or pre-1978 child-occupied facilities, it must have a HUD -issued XRF Performance Characteristic Sheet. XRFs must be used in accordance with the manufacturer's instructions and the PCS. The PCS contains information about XRF readings taken on specific substrates, calibration check tolerances, interpretation of XRF readings (see section I.E, above), and other aspects of the model's performance.

If discrepancies exist among the PCS, the HUD *Guidelines* and the manufacturer's instructions, the most stringent guidelines should be followed. For example, if the PCS has a lower (more stringent) calibration check tolerance than the manufacturer's instructions, the PCS should be followed.

These *Guidelines* and the PCS are applicable to all XRF instruments that detect K X rays, L X rays, or both. Most XRF instruments in use at the time of publication of this edition of these *Guidelines* detect K-shell fluorescence (X-ray energy), some instruments, L-shell fluorescence, and some, both K and L fluorescence. In general, L X rays released from greater depths of paint are less likely to reach the surface than are K X rays, which makes detection of lead in deeper paint layers by L X rays alone more difficult. However, L X rays are less likely to be influenced by substrate effects.

#### **G. Inspection by Paint-chip Analysis**

Performing inspections by the sole use of laboratory paint-chip analysis is not recommended because it is time-consuming, costly, and requires extensive repair of painted surfaces. Laboratory analysis of paint-chip samples is recommended for inaccessible areas or building components with irregular (non-flat) surfaces that cannot be tested using XRF instrumentation. Laboratory analysis is also recommended to confirm inconclusive XRF results, as specified on the applicable XRF Performance Characteristic Sheet, or at the inspector's professional judgment. Some newer laboratory analytical methods can provide results within minutes (see section I.H, below). Only laboratories recognized under the EPA NLLAP may be used for analyzing samples of paint in target housing or pre-1978 child-occupied facilities. Laboratory analysis is more accurate and precise than XRF, but only if great care is used to collect and analyze the paint-chip sample. Laboratory results of paint chip samples should be reported as mg/cm<sup>2</sup>. Appendix 1 of these *Guidelines* explains why units of mg/cm<sup>2</sup> are not dependent on the number of overcoats of lead-free paint and why such units of measure are therefore more reliable than weight percent. The dimensions of the area from which a paint-chip sample is removed must be measured as accurately as possible (to the nearest millimeter or 1/16th of an inch) and the sample has to include every layer of paint with minimal substrate included.

Although laboratory results can also be reported as a percentage of lead by weight of the paint sample, percents should only be used when it is not feasible to use mg/cm<sup>2</sup>. These two units of measure are not interchangeable. Laboratory results should be reported as mg/cm<sup>2</sup> if the surface area can be accurately measured and if all paint within that area is collected.

In mg/cm<sup>2</sup> measurements, keep the amount of substrate material as small as possible so that the inclusion of the substrate in the sample risks biasing the results as little as possible. However, if reporting weight percent measurements, no substrate may be included because the substrate will "dilute" the amount of lead reported. If a visual examination shows that the bottom layer of paint appears to have "bled" into the substrate, a very thin upper portion of the substrate should



be included in the sample to ensure that all lead within the sample area has been included in the sample. Direct the laboratory to report lead in mg/cm<sup>2</sup> if significant amounts of substrate are included in the sample. If the classification of presence or absence of lead-based paint based on weight percent and mg/cm<sup>2</sup> do not agree (e.g., weight percent exceeds the standard while mass per area value is below the standard) and the contradictory results cannot be resolved the report should state that lead-based paint is present.

See section VI for additional information on laboratory analysis.

## H. Additional Means of Analyzing Paint

Methods of analyzing lead in paint are available in addition to XRF and laboratory paint-chip analysis, including transportable instruments and chemical test kits. Because some of these methods involve paint removal or disturbance, repair is needed after sampling, unless the substrate will be removed, encapsulated, enclosed, or repainted before occupancy (see section VI), or if analysis shows that the paint is not lead-based paint, and leaving the damage is acceptable to the client and/or the owner.

### 1. Mobile Laboratories

Portable instruments that employ anodic stripping voltammetry (ASV) and potentiometric stripping analysis (PSA) are now available. Their use is described in ASTM E1775-07 Standard Guide for Evaluating Performance of On Site Extraction and Field Portable Electrochemical or Spectrophotometric Analysis for Lead, ([www.astm.org/Standard/index.shtml](http://www.astm.org/Standard/index.shtml)) which may be used as a basis for evaluating the performance of on-site extraction and electrochemical and spectrophotometric analyses.

In states and tribal lands where EPA is operating a lead program, paint samples for an inspection must be analyzed by a laboratory or testing firm recognized by EPA under the National Lead Laboratory Accreditation Program (NLLAP). If, in these states, an NLLAP laboratory wishes to perform on-site analyses of paint samples, it may do so if its NLLAP recognition includes the type of laboratory operation to be used, whether a mobile laboratory, or a field sampling and measurement organization. See the NLLAP Laboratory Quality System Requirements (LQSR). (As of the publication of this edition of these *Guidelines*, NLLAP was using Revision 3.0 of the LQSR, dated November 5, 2007. <http://www.epa.gov/lead/pubs/lqsr3.pdf>, especially pages 1-2, 7, 12, and 18-19.) In states or tribal lands where the state or tribe is operating an EPA-authorized lead program, the same requirements generally apply, although there may be some differences.

### 2. Chemical Test Kits

Chemical test kits, also known as spot test kits, are intended to show a color change when a part of the kit makes contact with the lead in lead-based paint. Because of how long it has been since the application of lead-based paint in residential units was banned, often the surface coat does not contain significant levels of lead. Therefore many spot test kits require exposing all the layers of paint by slicing or some other method.

One type of chemical test kit is based on the formation of lead sulfide, which is black, when lead in paint reacts with sodium sulfide. Another is based on the formation of a red or pink color when lead in paint reacts with sodium rhodizonate.

Although EPA did not find chemical spot test kits sufficiently reliable for use in lead-based paint inspections, and the Agency recommended that they not be used (EPA, 1995b), it appeared that some spot test kits, when used by trained professionals, may be reliable as negative screens (NIST, 2000). During its development of its 2008 Lead Renovation, Repair and Painting Program (RRP) rule (see Appendix 6), EPA published “Lead Paint Test Kit Development; Request for Comments” (71 Federal Register 13561-13563, March 16, 2006) in order to encourage the further development of this method. In the RRP Rule, EPA described criteria for lead test kits that detect lead in paint (<http://www.epa.gov/lead/pubs/testkit.htm>).

Specifically, at 40 CFR 745.88(b)(4) and (c), the RRP rule requires a test kit newly recognized (i.e., after September 1, 2010) by EPA to meet both:

- ◆ The negative response criterion: That a false negative response (a negative response, indicating that lead-based paint is not detected) occurs no more than 5 percent of the time for paint at or above the current standard for lead-based paint (1.0 mg/cm<sup>2</sup> or 0.5 percent by weight), with 95 percent confidence; and
- ◆ The positive response criterion: That a false positive response (a positive response, indicating that lead-based paint is detected) occurs no more than 10 percent of the time for paint below the current standard for lead-based paint), with 95 percent confidence.

As of the publication of this edition of these *Guidelines*, a lead test kit can be EPA-recognized (see the list at <http://www.epa.gov/lead/pubs/testkit.htm>) for determining, for RRP rule use, that lead-based paint is not present if it meets EPA’s negative response criterion, above. EPA’s recognition of such kits will last until EPA publicizes its recognition of the first test kit that meets both the negative response and positive response criteria outlined in the RRP rule. (40 CFR 745.88(b)(3).) As of the publication of this edition of these *Guidelines*, EPA had recognized three lead test kits for use in complying with the false negative response criterion of the RRP rule, but no test kit that meet both its false positive and false negative criteria. Accordingly, when a certified renovator obtains a negative response from an EPA-recognized test kit, i.e., indicating that lead-based paint is not detected, the certified renovator may use the response as part of determining whether the renovation project is exempt from the RRP Rule (but this does not provide an exemption from the Lead Disclosure Rule or the Lead Safe Housing Rule, which require lead-based paint inspections to support the exemption). Similarly, when a certified inspector or risk assessor obtains a negative response from an EPA-recognized test kit – but not a positive response – the response may be mentioned in a lead-based paint inspection, hazard screen or risk assessment report.

HUD and EPA may fully recommend chemical spot test kit use at some point after the publication of this edition of these *Guidelines* for lead-based paint inspections if the technology is demonstrated to be equivalent to XRF or laboratory paint-chip analysis in its ability to properly classify painted surfaces into positive, negative, and, if appropriate, inconclusive categories, with appropriate estimates of the magnitude of sampling and analytical error. XRF Performance Characteristic Sheets currently provide such estimates for XRFs, and analytical error is

well-described for laboratory analysis. Information on test kits or other new technologies for testing for lead in paint can be obtained from the lead test kits website above, and the EPA contact listed there, and from the National Lead Information Center Clearinghouse (1-800-424-LEAD) (hearing- or speech-challenged individuals may access this number through TTY by calling the toll-free Federal Relay Service at 800-877-8339) (<http://www.epa.gov/oppt/lead/pubs/nlic.htm>).

## II. Summary of XRF Radiation Safety Issues

Radiation hazards associated with the use of XRFs that use radioactive sources are covered in detail in section VII. The shutter of an XRF must never be pointed at anyone, even if the shutter is closed. Inspectors should wear radiation dosimeters to measure their exposure, although excessive exposures are highly unlikely if the instruments are used in accordance with the manufacturer's instructions. If feasible, persons should not be near the other side of a wall, floor, ceiling, or other building component surface being tested.

## III. Definitions

Definitions of several key terms used in this chapter are provided here. Although other definitions are available, the definitions and descriptions in this chapter should be used when conducting lead-based paint inspections.

- a) **Building Component Types** – A building component type consists of doors, windows, walls, and so on that are repeated in more than one room equivalent in a unit and have a common substrate. If a unique building component is present in only one room, it is considered to be a testing combination. Each testing combination may be composed of more than one building component (such as two similar windows within a room equivalent). Component types can be located inside or outside the dwelling. For example, typical component types in a bedroom would be the ceiling, walls, a door and its casing, the window sash, window casings, and any other distinct surface, such as baseboards, crown molding, and chair rails. If trends or patterns of lead-based paint classifications are found among building component types in different room equivalents, an inspection report may summarize results by building component type, as long as all measurements are included in the report. For example, the inspection may find that all doors and door casings in a dwelling unit are coated with LBP (are "positive").
- b) **Lead-based paint** – As of the publication of this edition of these *Guidelines*, lead-based paint means paint or other surface coatings that contain lead equal to or greater than 1.0 mg/cm<sup>2</sup> or 0.5 percent by weight. (Equivalent units for the weight concentration are: 5,000 µg/g, 5,000 mg/kg, or 5,000 ppm by weight.) Surface coatings include paint, shellac, varnish, or any other coating, including wallpaper that covers painted surfaces.
- c) **Lead loading** – The mass of lead in a given surface area of a substrate. Lead loading is typically measured in units of milligrams per square centimeter (mg/cm<sup>2</sup>). It is also called area concentration.
- d) **Room equivalent** – A room equivalent is an identifiable part of a residence, such as a room, a house exterior, a foyer, a staircase within a housing unit, a hallway within a housing unit, or an exterior area (exterior areas contain items such as play areas, painted swing sets, painted sandboxes, etc.). Closets or other similar areas adjoining rooms should not be considered as separate room equivalents unless they are obviously dissimilar from the adjoining room equivalent. Most closets are not separate room equivalents. Exteriors should be included in all inspections. An individual side of an exterior is not considered to be a

separate room equivalent, unless there is visual or other evidence that its paint history is different from that of the other sides. All sides of a building (typically two for row houses, three for each of the units of a side-by-side duplex, or four for freestanding houses) are generally treated as a single room equivalent if the paint history appears to be similar. For multi-family developments or apartment buildings, common areas and exterior sites are treated as separate types of units, not as room equivalents (see section V.C.1 for further guidance).

- e) **Substrate** – The substrate is the material underneath the paint. Substrates should be classified into one of six types: brick, concrete, drywall, metal, plaster, or wood. These substrates cover almost all building materials that are painted and are linked to those used in the XRF Performance Characteristic Sheets (PCS). For example, the concrete substrate type includes poured concrete, precast concrete, and concrete block.

If a painted substrate is encountered that is different from the substrate categories shown on the PCS, select the substrate type that is most similar in density and composition to the substrate being tested. For example, for painted glass substrates, an inspector should select the concrete substrate, because it has about the same density (2.5 g/cm<sup>2</sup>) and because the major element in both is silicon.

For components that have layers of different substrates, such as plaster over concrete, the substrate immediately adjacent to (underneath) the painted surface should be used. For example, plaster over concrete block is recorded as plaster.

- f) **Testing Combination** – A testing combination is a unique combination of room equivalent, building component type, and substrate. Visible color may not be an accurate predictor of painting history and is not included in the definition of a testing combination. Table 7.1 lists common building component types that could make up distinct testing combinations within room equivalents. The list is not intended to be exhaustive. Unlisted components that are coated with paint, varnish, shellac, wallpaper, stain, or other coating should also be considered as a separate testing combination.

Certain building components that are adjacent to each other and not likely to have different painting histories can be grouped together into a single testing combination, as follows:

- ◆ Window casings, stops, jambs and aprons are typically a single testing combination
- ◆ Interior window mullions and window sashes are a single testing combination – do not group interior mullions and sashes with exterior mullions and sashes
- ◆ Exterior window mullions and window sashes are a single testing combination
- ◆ Door jambs, stops, transoms, casings and other door frame parts are a single testing combination
- ◆ Door stiles, rails, panels, mullions and other door parts are a single testing combination
- ◆ Baseboards and associated trim (such as quarter-round or other caps) are a single testing combination (do not group chair rails, crown molding or walls with baseboards)
- ◆ Painted electrical sockets, switches or plates can be grouped with walls

Each of these building parts should be tested separately if there is some specific reason to believe that they have a different painting history. In most cases, separate testing will not be necessary.

**Table 7.1 Examples of Interior and Exterior Building Component Types**

<b>Commonly Encountered Interior Painted Components That Should Be Tested Include:</b>		
Air Conditioners	Counter Tops	Radiators
Balustrades	Crown Molding	Shelf Supports
Baseboards	Doors and Trims	Shelves
Bathroom Vanities	Electrical Fixtures, Painted	Stair Stringers
Beams	Fireplaces	Stair Treads and Risers
Cabinets	Floors	Stools and Aprons
Ceilings	Handrails	Walls
Chair Rails	Newel Posts	Window Sashes and Trim
Columns	Other Heating Units	
<b>Exterior Painted Components That Should Be Tested Include:</b>		
Air Conditioners	Fascias	Railing Caps
Balustrades	Floors	Rake Boards
Bulkheads	Gutters and Downspouts	Sashes
Ceilings	Joists	Siding
Chimneys	Handrails	Soffits
Columns	Lattice Work	Stair Risers and Treads
Corner boards	Mailboxes	Stair Stringers
Doors and Trim	Painted Roofing	Window and Trim
<b>Other Exterior Painted Components Include:</b>		
Fences	Storage Sheds & Garages	
Laundry Line Posts	Swing sets and Other Play Equipment	

Table 7.2 provides six examples of different testing combinations. The first example is a wooden bedroom door. This is a testing combination because it is described by a room equivalent (bedroom), component (door), and substrate (wood). If one of these variables is different for another component, that component is a different testing combination. For example, if a second door in the room equivalent is metal, two testing combinations, not one, would be present.

**Table 7.2 Examples of Distinct Testing Combinations**

Room Equivalent	Building Component	Substrate
Master Bedroom (Room 5)	Door	Wood
Master Bedroom (Room 5)	Door	Metal
Kitchen (Room 3)	Wall	Plaster
Garage (Room 10)	Floor	Concrete
Exterior	Siding	Wood
Exterior	Swing set	Metal

**Test Location** – The test location is a specific area on a testing combination where either an XRF reading or a paint-chip sample will be taken. For doors separating rooms, each side of the door is assigned to the room equivalent it faces and is tested separately. The same is true of door casings. For prefabricated metal doors where it is apparent that both sides of the door have the same painting history, only one side needs to be tested.

#### IV. Inspections in Single-Family Housing

Single-family housing inspections should be conducted by a State- or EPA-certified (licensed) lead-based paint inspector using the following seven steps, some of which may be done at the same time:

- ◆ List all testing combinations, including those that are painted, stained, shellacked, varnished, coated, or wallpaper which covers painted surfaces.
- ◆ Select testing combinations.
- ◆ Perform XRF testing (including the calibration check readings).
- ◆ Collect and analyze paint-chip samples for testing combinations that cannot be tested with XRF, that had inconclusive XRF results, or for client-approved confirmation of XRF results.
- ◆ Classify XRF and paint-chip results.
- ◆ Evaluate the work and results to ensure the quality of the paint inspection.
- ◆ Document all findings in a plain language summary and a complete report; include language in both the summary and the report indicating that the information must be disclosed to tenants and prospective purchasers in accordance with Federal law (24 CFR part 35 or 40 CFR part 745) (see Appendix 6).

## A. Listing Testing Combinations

Develop a list of all testing combinations in all interior rooms, on all exterior building surfaces, and on surfaces in other exterior areas, such as fences, playground equipment, and garages. The “Single-Family Housing LBP Testing Data Sheet” (see Addendum 2) or a comparable data collection instrument may be used for this purpose. An inventory of a house may be completed either before any testing or on a room-by-room basis during testing. HUD encourages inspectors to take the inventory before beginning any testing. This provides the inspector with an overview of the housing to be inspected, identify problems, and helps the inspector organize the inspection work activities.

### 1. Number of Room Equivalents to Inspect

Test all room equivalents inside and outside the dwelling unit. The final report must include a final determination of the presence or absence of lead-based paint on each testing combination in each room equivalent. For varnished, stained, or similar clear-coated floors, measurements in only one room equivalent are permissible if it appears that the floors in the other room equivalents have the same coating.

Some testing combinations have multiple parts. For example, a window testing combination could theoretically be broken down into the interior sill (stool), exterior sill, trough, sash, apron, parting bead, stop bead, casing, and so on. Because it is highly unlikely that all these parts will have different painting histories, usually they should not be considered separate testing combinations unless their professional judgment and field condition dictate otherwise. (Inspectors should regard parts of building components as separate testing combinations if they have evidence that different parts have separate, distinct painting histories). Windows and doors would typically have at least two combinations, interior and exterior. See the definition of testing combination (section III, above) for guidance on which building component parts may and may not be grouped together.

### 2. Number of Testing Combinations to Inspect

Inspect each testing combination in each room equivalent, unless similar building component types with identical substrates (such as windows) are all found to contain lead-based paint in the first five interior room equivalents. In that case, testing of that component type in the remaining room equivalents may be discontinued, *if and only if* the purchaser of the inspection services agrees beforehand to such a discontinuation. The inspector should then conclude that similar building component types in the rest of the dwelling unit also contain lead-based paint. For example, if an inspector finds that baseboards in the first five room equivalents are all positive, the inspector – with the client’s permission – may conclude that all remaining room equivalents in the unit contain positive baseboards. This is sometimes referred to as a “positive stop.”

Because it is highly unlikely that testing combinations *known* (and not just presumed) to have been replaced or added to the building after 1977 will contain lead-based paint, they need not be tested. If the age of the testing combination is in doubt, it should be tested.



**FIGURE 7.2** Child's bed showing teeth marks in the painted surface. Paint should be tested for lead.

### 3. Painted Furniture

Painted furniture that is physically attached to the unit (for example, a built-in desk or dresser) should be included in the inspection as a testing combination. Other painted furniture may also be tested, depending on the client's wishes. Children's furniture (such as cribs or playpens), especially if built before 1978, may contain lead-based paint and can be tested, subject to the client's wishes (see Figure 7.2). Imported products may be more suspect, and therefore tested. Check that the entire face plate of the XRF is flush to a painted surface of the furniture. If this is not possible, the piece of furniture must be presumed to be coated with lead-based paint, or a chip may be taken for lead analysis by an EPA-recognized laboratory.

### 4. Ceramic Tile and Other Fixtures

Some inspectors and risk assessors test non-paint surfaces such as unpainted ceramic tile and porcelain

bathtubs for lead content because these items may be a source of lead exposure during demolition or renovation. These items are not considered lead-based paint; their presence does not need to be included in disclosure under the Lead Disclosure Rule (see Appendix 6). Lead-containing ceramic tile is not a common cause for childhood lead poisoning. However, surface abrading and demolition activities such as breaking or crushing may release lead. For this reason, some inspectors and risk assessors include ceramic tile and bathtubs in pre-rehabilitation inspections/risk assessments and reference the OSHA lead in construction standard (29 CFR 1926.62) in their reports (see Appendix 6).

Ceramic tiles are still available with lead glaze; these are being sold and installed in homes. HUD's American Healthy Homes Survey found some tiles with lead loadings of 1.0 mg/cm<sup>2</sup> or more in homes built after 1977. (HUD, 2011)

### 5. Building Component Types

Results of an inspection may be summarized by classifying component types across room equivalents if patterns or trends are supported by the data.

### 6. Substrates

Several types of XRF instruments do not require "substrate correction," needed to correct a systematic bias in an XRF instrument resulting from interference from substrate material beneath the paint. (See Section IV.E, below.) However, all substrates across all room equivalents should be grouped into one of the six substrate categories (brick, concrete, drywall, metal, plaster, or wood) shown on the XRF Performance Characteristic Sheet for the instrument being used. Substrate correction procedures, if required, can then be applied for all building component types with the same substrate. For example, the substrate correction procedure for wooden doors and wooden baseboards can use the same substrate correction value.



## B. Number and Location of XRF Readings

### 1. Number of XRF Readings for Each Testing Combination

XRF testing is required for at least one location per testing combination, except for interior and exterior walls, where four readings should be taken, one on each wall. Analysis (Westat, 1996) of EPA data show a median difference in spatial variation of only 0.1 mg/cm<sup>2</sup> and a change in classification (positive, negative, or inconclusive) occurs less than 5 percent of the time as a result of different test locations on the same testing combination. (Westat, 1996) Multiple readings on the same testing combination or testing location are, therefore, unnecessary, except for interior and exterior walls.

Because of the large surface areas and quantities of paint involved, and the possibility of increased spatial variation, take at least four readings (one reading on each wall) in each room equivalent. (For room equivalents with fewer than four walls, test each wall.) For each set of walls with the same painting history in a room equivalent, test the four largest walls. Classify each wall based on its individual XRF reading. If a room equivalent has more than four walls, calculate the average of the readings, round the result to the same number of decimal places as the XRF instrument displays, and classify the remaining walls with the same painting history as the tested walls, based on this rounded average. When the remaining walls in a room equivalent clearly do not have the same painting history as that of the tested walls, test and classify the remaining walls individually. For exterior walls, select at least four sides and average the readings (rounding the result as described above) to obtain a result for any remaining sides. If there are more than four walls and the results of the tested walls do not follow a classification pattern (for example, one is positive and the other three are negative), test each wall individually.

### 2. Location of XRF Readings

The selection of the test location for a specific testing combination should be representative of the paint over the areas that are most likely to be coated with old paint or other lead-based coatings. Thus, locations where the paint appears to be thickest should be selected. Locations where paint has worn away or been scraped off should not be selected. Areas over pipes, electrical surfaces, nails, and other possible interferences should also be avoided if possible. All layers of paint should be included and the XRF probe faceplate should be able to lie flat against the surface of the test location.

If no acceptable location for XRF testing exists for a given testing combination, a paint-chip sample should be collected and sent to a lead laboratory recognized by NLLAP for analysis of lead in paint. The sample should include all paint layers and should be taken as unobtrusively as possible. Because paint-chip sampling is destructive, a single sample may be collected from a wall and used to characterize the other walls in a room equivalent (see section VI for additional details on paint-chip sampling). For greater reliability, consider collection and analysis of more than one sample.

### 3. Documentation of XRF Reading Locations

Descriptions of testing combinations must be sufficiently detailed to permit another individual to find them. While it is not necessary to document the exact spot or the exact building

component on which the reading was taken, it is necessary to record the exact testing combination measured. Current room uses or colors can change and should not be the only way of identifying them. A numbering system, floor plan, sketch or other system may be used to document which testing combinations were tested. While HUD does not require a standard identification system, one that could be used is as follows:

a) **Side identification**

Identify perimeter wall sides with letters A, B, C, and D (or numbers or Roman numerals). Side A for single-family housing is the street side for the address. Side A in multi-family housing is the apartment entry door side.

Side B, C, and D are identified clockwise from Side A as one faces the dwelling; thus Wall B is to the left, Wall C is across from Side A, and Side D is to the right of Side A.

Each room equivalent's side identification follows the scheme for the whole housing unit. Because a room can have two or more entries, sides should not be allocated based on the entry point. For example, giving a closet a side allocation based on how the room is entered would make it difficult for another person to make an easy identification, especially if the room had two closets and two entryways.

b) **Room Equivalent Identification**

Room equivalents should be identified by both a number and a use pattern (for example, Room 5-Kitchen). Room 1 can always be the first room, at the A-D junction at the entryway, or it can be the exterior. Rooms are consecutively numbered clockwise. If multiple closets exist, they are given the side allocation: for example, Room 3, Side C Closet. The exterior is always assigned a separate room equivalent identifier.

c) **Sides in a Room**

Sides in an interior room equivalent follow the overall housing unit side allocation. Therefore, when standing in any four-sided room facing Side C, the room's Side A will always be to the rear, Side B will be to the left, and Side D will be to the right.

d) **Building Component Identification**

Individual building components are first identified by their room number and side allocation (for example, the radiator in Room 1, Side B is easily identified). If multiple similar component types are in a room (for example, three windows), they are differentiated from each other by side allocation. If multiple components are on the same wall side, they are differentiated by being numbered left to right when facing the components. For example, three windows on Wall D are identified as windows D1, D2, and D3, left to right. If window D3 has the only old original sash, it is considered a separate testing combination from the other two windows. Codes or abbreviations for building components and/or locations may be used in order to shorten the time needed for data entry. If codes or abbreviations are used, the inspection records and the inspection report must include a table showing their meaning.

A sketch of the dwelling unit's floor plan is often helpful, but is not required by this protocol. Whatever documentation is used, a description of the room equivalent and testing combination identification system must be included in the final inspection report.

### C. XRF Instrument Reading Time

The recommended time to open an XRF instrument's shutter to obtain a single XRF result for a testing location depends on the specific XRF instrument model and the mode in which the instrument is operating. The *XRF Performance Characteristic Sheet* provides information on this issue.

To ensure that a constant amount of radiation is delivered to the painted surface, the open-shutter time that permits radiation from the radioactive source to strike the painted surface and then stimulate fluorescence in the paint that reaches the instrument's detector must be increased as the source ages and the source weakens. Almost all commercially available XRF instruments automatically adjust for the age of the source. (Some instruments adjust for source decay in some but not all modes; operators should check with the manufacturers of their instruments to determine whether these differences need to be accommodated). The following formula should be employed for instruments that use radioactive sources and that requiring manual adjustment of the open-shutter time:

$$\text{Open-Shutter Time} = 2^{(\text{Age}/\text{Half-life})} \times \text{Nominal Time}$$

where:

- ◆ Age is the age (in days) of the radioactive source, starting from the date the manufacturer says the source had its full radiation strength;
- ◆ *Half-life* is the time (in days) it takes for the radioactive material's activity to decrease to one-half its initial level; and
- ◆ *Nominal Time* is the recommended nominal number of seconds for open-shutter time to expose the surface to the X-rays from the radioactive source, when the source is at its full radiation strength, and is obtained from the *XRF Performance Characteristic Sheet*.

For example, if the age of the radioactive source is equal to its half-life (the length of time in which the number of radioactive atoms is reduced to one half of the current number of radioactive atoms), the open-shutter time should be twice the nominal time in order to get the same amount of exposure to the radiation from the decaying source. XRFs that use radioactive sources typically use cobalt-57 (with a half life of 270 days) or cadmium-109 (with a half life of 464 days). Thus, if the recommended nominal time for a particular model of XRF instrument is 15 seconds on the date of manufacture of the source, the open-shutter time should be doubled to 30 seconds 270 days later for cobalt sources and 464 days later for cadmium sources. This would be repeated at the same half-life intervals for each source as it decays further. For example, at 540 days (i.e., two half-lives) after manufacture of an XRF instrument of this model if it has a cobalt source should have its open-shutter time be 60 seconds (i.e., two times two, or four times the nominal time), at 810 days (i.e., three half-lives), 120 seconds (i.e., two multiplied by itself three times, that is, eight times the nominal time), and so on.

XRF Performance Characteristic Sheets (PCS) typically report different inconclusive ranges or thresholds (see section IV.G, below) for different nominal times and different substrates. This may affect the number of paint-chip samples that must be collected as well as the length of time required for the inspection. Some XRF devices have different modes of operation with different nominal reading times. Inspectors must use the appropriate inconclusive ranges and other criteria specified on the PCS for each XRF model, mode of operation and substrate. For example, inconclusive ranges specified for a 30-second nominal reading cannot be used for a 5-second nominal reading, even for the same instrument and the same substrate.

Inspectors should record the source age (or the date the manufacturer says the source had its full radiation strength) in the field notes for the inspection. Optionally, the inspector may include this information in description of the XRF testing method in the inspection report.

#### **D. XRF Calibration Check Readings**

In addition to the manufacturer's recommended warm up and quality control procedures, the XRF operator should take the quality control readings recommended below, unless these are less stringent than the manufacturer's instructions. Quality control for XRF instruments involves readings to check calibration. Most XRFs cannot be calibrated on-site; actual calibration can only be accomplished in the factory. You should also review ASTM E21 1900, Standard Practice for Quality Systems for Conducting in Situ Measurements of Lead Content in Paint or Other Coatings Using Field-Portable X-Ray Fluorescence (XRF) Devices.

##### **1. Frequency and Number of Calibration Checks**

For each XRF instrument, two sets of XRF calibration check readings are recommended at least every 4 hours. The first is a set of three nominal-time XRF calibration check readings to be taken before the inspection begins. The second occurs either after the day's inspection work has been completed, or at least every 4 hours, whichever occurs first. To reduce the amount of data that would be lost if the instrument were to go out of calibration between checks, and/or if the manufacturer recommends more frequent calibration checks, the calibration check can be repeated more frequently than every 4 hours. If the XRF manufacturer recommends more frequent calibration checks, the manufacturer's instructions should be followed. Calibration should also be checked before the XRF is turned off (for example, to replace a battery or before a lunch break) and after it is turned on again. For example, if an inspection of a large house took 6 hours, there would be three calibration checks: one at the beginning of the inspection, another after 4 hours, and a third at the end of the inspection.

If the XRF is not turned off as the inspector travels from one dwelling unit to the next, calibration checks do not need to be done after each dwelling unit is completed. For example, in multi-family housing, calibration checks do not need to be done after each dwelling unit is inspected; once every 4 hours is usually adequate. Some inspectors do a calibration check between units for two reasons: first, if the instrument goes out of calibration during the inspection of the unit, only that unit needs to be reinspected, and, second, if the inspector inadvertently misses a calibration check, the period between checks is less likely to exceed 4 hours.

Some instruments automatically enter a "sleep" or "off" state when not being used continually to prolong battery life. It is not necessary to perform a calibration check before and after each "sleep" state episode, unless the manufacturer recommends otherwise.

##### **2. Calibration Check Standard Materials**

Portable XRF calibration check readings are taken on the National Institute of Standards and Technology (NIST) Standard Reference Material (SRM) or NIST Certified Reference Material using the nominal 1.0 mg/cm<sup>2</sup> paint film (or nearly 1.0 in older sets) within the SRM. The complete set of paint films can be obtained by calling (301) 975-2200 or using the NIST SRM site at <http://www.nist.gov>.

[nist.gov/srm/index.cfm](http://nist.gov/srm/index.cfm) . As of the publication of this edition of these *Guidelines*, the SRM for *Lead Paint Films for Portable XRF Analyzers* is a set of paint films numbered SRM 2579a, its cost was \$397. (At some point, this SRM may be depleted and NIST may begin selling another SRM in its place; its number (possibly 2579b) may be found by searching the NIST SRM site for “Lead Paint Films,” or asking NIST staff for an SRM for Lead Paint Films)

Calibration checks should be taken through the SRM paint film with the film positioned at least 1 foot (0.3 meters) away from any potential source of lead. The NIST SRM film should not be placed on a tool box, suitcase, or surface coated with paint, shellac, or any other coating to take calibration check readings. Rather, the NIST SRM film should be attached to a solid (not plywood) wooden board or other non-metal rigid substrate such as drywall, or attached directly to the XRF probe. The SRM should be positioned so that readings of it are taken when it is more than 1 foot (0.3 meters) away from a potential source of error. For example, the NIST SRM film can be placed on top of a 1 foot (0.3 meter) thick piece of Styrofoam or other lead-free material, as recommended by the manufacturer before taking readings.

### 3. Recording and Interpreting Calibration Check Readings

Each time calibration check readings are made, three readings should be taken. These readings should be taken using the nominal time which will be used during the inspection, selected from among those specified in the PCS. The open shutter time should be adjusted, if necessary, to reflect the age of the radioactive source (see section IV.C, above). The readings can be recorded on the “Calibration Check Test Results” form (Form 7.2 in Addendum 2), on a comparable form, or stored in the instrument’s memory, and printed out or transferred to a computer later. The average of the three calibration check readings should be calculated, rounded to the same number of decimal places as the XRF instrument displays, and recorded on the form.

Large deviations from the NIST SRM value will alert the inspector to problems in the instrument’s performance. If the observed calibration check average is outside of the acceptable calibration check tolerance range specified in the instrument’s PCS, the manufacturer’s instructions should be followed to bring the instrument back into control. A successful calibration check should be obtained before additional XRF testing is conducted. Readings not accompanied by successful calibration checks at the beginning and end of the testing period are unreliable and should be repeated after a successful calibration check has been made. If a backup XRF instrument is used as a replacement, it must successfully pass the initial calibration check test before retesting the affected test locations. (Current sheets are available at [www.hud.gov/offices/lead/lbp/hudguidelines/allpcs.pdf](http://www.hud.gov/offices/lead/lbp/hudguidelines/allpcs.pdf).)

This procedure assumes that the HUD/EPA lead-based paint standard of 1.0 mg/cm<sup>2</sup> is being used. If a different standard is being used, other NIST SRMs should be used to determine instrument performance against the different standard (see Section IV D 2). At the time of the publication of this edition of these *Guidelines*, however, no method for determining XRF performance characteristics using different standards has been developed.

#### E. Substrate Correction

XRF readings are sometimes subject to systematic biases as a result of interference from substrate material beneath the paint. The magnitude and direction of bias depends on the substrate, the specific XRF instrument being used, and other factors such as temperature and humidity. Results

can be biased in either the positive or negative direction and may be quite high.

### 1. When Substrate Correction Is Not Required

Some XRF instruments do not need to have their readings corrected for substrate bias on any substrate. Other instruments may only need to apply substrate correction procedures on specific substrates and/or when XRF results are below a specific value. The *XRF Performance Characteristic Sheet* should be consulted to determine the requirements for a specific instrument and each mode of operation (e.g., nominal time, or time required for intended precision). XRF instruments which do not require correction for any substrate, or require corrections on only a few substrates, have an advantage in that they simplify and shorten the inspection process.

### 2. Substrate Correction Procedure

XRF results are corrected for substrate bias by subtracting a correction value determined separately in each house for each type of substrate where lead paint values are in the substrate correction range indicated on the XRF Performance Characteristic Sheet (PCS). In single-family housing, the substrate correction value is determined using the specific instrument(s) used in that house. The correction value (formerly called "Substrate Equivalent Lead" or "SEL") is an average of six XRF readings, with three taken from each of two test locations that have been scraped visually clean of their paint coating. The locations selected for removal of paint should have an initial XRF reading on the painted surface of less than 2.5 mg/cm<sup>2</sup>, if possible. If all initial readings on a substrate type are greater than 2.5 mg/cm<sup>2</sup>, the locations with the lowest initial reading should be chosen. Because available data indicate that surfaces with XRF readings in excess of about 3.0 mg/cm<sup>2</sup> or 4.0 mg/cm<sup>2</sup> are almost always coated with lead-based paint, and since bleed-through of lead into the substrate may occur, or pipes and similarly interfering building components may be behind the material being evaluated, locations with such high readings should be avoided for substrate correction.

After all XRF testing has been completed but before the final calibration check test has been conducted, XRF results for each substrate type should be reviewed. If any readings fall within the range for substrate correction for a particular substrate, obtain the substrate correction value.

On each selected substrate requiring correction, two different testing combinations must be chosen for paint removal and testing. For example, if the readings are inconclusive for some wooden baseboards, select two baseboards, each from a different room. If some wooden doors also require substrate correction, the inspector should take substrate correction readings on one door and one baseboard. Selecting the precise location of substrate correction should be based on the inspector's ability to remove paint thoroughly from the substrates, the similarity of the substrates, and their accessibility. The XRF probe faceplate must be able to be placed over the scraped area, which should be completely free of paint or other coatings.

The size of the area from which paint is taken depends on the size of the analytical area of the XRF probe faceplate; normally, the area is specified by the manufacturer. To ensure that no paint is included in the bare substrate measurement, the bare area on the substrate should be slightly larger than the analytical area on the XRF probe faceplate.

In all, six readings must be taken for each substrate type that requires correction. All six must be averaged together. Take three readings on the first *bare* substrate area. Record

the substrate and XRF readings on the "Substrate Correction Values" form (Form 7.3 in Addendum 2) or a comparable form. Repeat this procedure for the second bare substrate area and record the three readings on the same form. Substrate correction values should be determined using the same instrument used to take readings on the painted surfaces. If more than one XRF model was used to take readings, apply the substrate correction values as specified on each instrument's PCS.

Compute the correction value for each substrate type that requires correction by computing the average of all six readings as shown below and recording the results on the "Substrate Correction Values" form. The formula given below should be used to compute the substrate bias correction value for XRF readings taken on a bare substrate that is not covered with NIST SRM film. A different formula should be used when SRM film must be placed over the bare substrate. The PCS specifies when this correction is necessary and provides the formula for computing the correction value.

For each substrate type requiring substrate correction, transfer the correction values to the "Single-Family Housing LBP Testing Data Sheet" (Form 7.1). Correct XRF readings for substrate interference by subtracting the correction value from each XRF reading.

*Example:* Suppose that a house has 50 testing combinations with wood substrates. The PCS states that a correction value for XRF results taken on those wood testing combinations that have values less than 4.0 mg/cm<sup>2</sup> must be computed. Select two test locations from the testing combinations that had uncorrected XRF results of less than 2.5 mg/cm<sup>2</sup>. Completely remove the paint from these two test locations and take three nominal-time XRF readings on the bare substrate at each location. The six XRF readings at the two random locations are:

Master Bedroom Wood Door (mg/cm <sup>2</sup> )			Kitchen Wood Baseboard (Room 4) (mg/cm <sup>2</sup> )		
First	Second	Third	First	Second	Third
1.32	0.91	1.14	1.21	1.03	1.43

The correction value is the average of the six values:

$$\text{Correction value} = (1.32 + 0.91 + 1.14 + 1.21 + 1.03 + 1.43) \text{ mg/cm}^2 / 6 = 1.17 \text{ mg/cm}^2$$

In this same house, three different wood testing combinations were inspected for lead-based paint and the XRF results are: 1.63 mg/cm<sup>2</sup>, 3.19 mg/cm<sup>2</sup>, and 1.14 mg/cm<sup>2</sup>. Correcting these three XRF measurements for substrate bias produce the following results:

$$\text{First corrected measurement} = 1.63 \text{ mg/cm}^2 - 1.17 \text{ mg/cm}^2 = 0.46 \text{ mg/cm}^2$$

$$\text{Second corrected measurement} = 3.19 \text{ mg/cm}^2 - 1.17 \text{ mg/cm}^2 = 2.02 \text{ mg/cm}^2$$

$$\text{Third corrected measurement} = 1.14 \text{ mg/cm}^2 - 1.17 \text{ mg/cm}^2 = -0.03 \text{ mg/cm}^2$$

The third corrected result shown above is an example of how random error in XRF measurements can cause the corrected result to be less than zero. (Random measurement error is present whenever measurements are taken). Note that correction values can be either positive or negative. In short, negative corrected XRF values should be reported if supported by the data.

Finally, suppose an XRF result of 1.24 mg/cm<sup>2</sup> has a correction value of negative 0.41 mg/cm<sup>2</sup>. Subtracting a negative number is the same as adding its positive value. Therefore, the corrected measurement would be:

$$\text{Corrected result} = 1.24 \text{ mg/cm}^2 - (-0.41 \text{ mg/cm}^2) = 1.24 \text{ mg/cm}^2 + 0.41 \text{ mg/cm}^2 = 1.65 \text{ mg/cm}^2$$

### 3. Negative Values

If more than 20 percent of the corrected values are negative, the instrument's lead paint readings and/or the substrate readings are probably in error. Calibration should be checked and substrate measurements should be repeated.

## F. Discarding Readings

If the manufacturer's instructions call for the deletion of readings at specific times, *only* readings taken at those specific times should be deleted. Similarly, readings between a successful calibration check and a subsequent unsuccessful calibration check must be discarded. Readings should not be deleted based on any criteria other than what is specified by the manufacturer's instructions or the *HUD Guidelines*. For example, a manufacturer may instruct operators to discard the first XRF reading after a substrate change. If so, *only* the first reading should be discarded after a substrate change.

## G. Classification of XRF Results

XRF results are classified as positive, negative, or inconclusive.

A *positive* classification indicates that lead is present on the testing combination at or above the HUD/EPA standard; as of the publication of this edition of these *Guidelines*, the standard is 1.0 mg/cm<sup>2</sup>. A positive XRF result is any value greater than the upper bound of the inconclusive range, or greater than or equal to the threshold, as specified on the applicable XRF Performance Characteristic Sheet (PCS).

A *negative* classification indicates that lead is not present on the testing combination at or above the HUD/EPA standard. A negative XRF result is any value less than the lower bound of the inconclusive range, or less than the threshold, specified on the PCS.

An *inconclusive* classification indicates that the XRF cannot determine with reasonable certainty whether lead is present on the testing combination at or above the HUD/EPA standard. An inconclusive XRF result is any value falling within the inconclusive range on the PCS (including the boundary values defining the range). In single-family housing, all inconclusive results should be confirmed by analysis by a laboratory recognized by EPA, under NLLAP, for analysis of lead in paint, unless the client wishes to assume that all inconclusive results are positive.

Positive, negative, and inconclusive results apply to the actual testing combination and to any repetitions of the testing combination that were not tested in the room equivalents. Positive results also apply to similar component types in room equivalents that were not tested. For example, suppose that one baseboard in a room equivalent is tested, and that the inspector decided that all four baseboards are a single testing combination. The single XRF result applies to all four baseboards in that room equivalent.

When an inconclusive range is specified on the PCS, the inconclusive range includes its upper and lower bounds. XRF results are classified as positive if they are greater than the upper boundary of the inconclusive range, negative if they are less than the lower boundary of the inconclusive range, or inconclusive otherwise. For example (as in the table below), if the inconclusive range is 0.51 mg/



cm<sup>2</sup> to 1.49 mg/cm<sup>2</sup>, an XRF result of 0.50 mg/cm<sup>2</sup> is considered negative, because it is less than 0.51; a result of 0.6 mg/cm<sup>2</sup> is inconclusive; and a result of 1.5 mg/cm<sup>2</sup> is positive. Results of 0.51 mg/cm<sup>2</sup>, 1.00 mg/cm<sup>2</sup>, or 1.49 mg/cm<sup>2</sup> would be inconclusive. If the instrument reads to only one decimal place (such as 0.5 mg/cm<sup>2</sup>), the reading is treated as having a 0 in the second decimal place (as if the reading were 0.50 mg/cm<sup>2</sup>) for classifying the result with respect to its inconclusive range.

Reading (mg/cm <sup>2</sup> )	Inconclusive Range in PCS		Classification
	Lower limit (mg/cm <sup>2</sup> )	Upper limit (mg/cm <sup>2</sup> )	
0.50	Below lower limit		Negative
0.51	At lower limit		Inconclusive
0.60	Above lower limit	Below upper limit	Inconclusive
1.00	Above lower limit	Below upper limit	Inconclusive
1.49		At upper limit	Inconclusive
1.50		Above upper limit	Positive

Different XRF models have different inconclusive ranges, depending on the specific XRF model and the mode of operation. The inconclusive range may also be substrate-specific.

In some cases, the upper and lower limits of the inconclusive range are equal; that value is called the *threshold*. If the reading is less than the threshold, then the reading is considered negative. If the reading is equal to or greater than the threshold, then the reading is considered positive.

Use of the inconclusive range and threshold is detailed in the performance characteristic sheet. The categories include substrate-corrected results, if substrate correction is indicated. XRFs with *only* threshold values listed on the PCS are advantageous in that classifications of results are either positive or negative (no XRF readings are inconclusive).

Note that the final inspection report should **not** list inconclusive readings as a third category in addition to positive and negative. There are two options for addressing inconclusive readings:

- ◆ A paint chip may be sampled and sent to a laboratory recognized by EPA, under NLLAP, for analysis of lead in paint.
- ◆ If the client agrees, all inconclusive readings may be assumed to be positive. It is not permissible to assume any inconclusive reading is negative.

**H. Evaluation of the Quality of the Inspection**

The person responsible for purchasing inspection services – the homeowner, property owner, housing authority, prospective buyer, occupant, contractor, etc.; also known as the client – should consider evaluating the quality of the work using one or more of the methods listed below. Evaluation methods include direct observation, immediate provision of results, repeated testing, and time-and-motion analysis. Direct observation of the inspection should be used whenever possible. If this quality evaluation is to be conducted, the inspection contract should outline the financial penalties that will occur

if an inspector fails to perform as contracted during any visit. The certified lead-based paint inspection firm remains responsible, of course, for performing the inspection properly, even when the client, or a representative, has evaluated the quality of the work.

### 1. Direct Observation

An evaluation of a lead-based paint inspection is best made if a knowledgeable observer is present for as much of the XRF testing as possible. This is the only way to ensure that all painted, varnished, shellacked, wallpapered, stained, or other coated testing combinations are actually tested, and that all XRF readings are recorded correctly. Employ as the observer someone who is trained in lead-based paint inspection and who is independent of the inspection firm.

If it is not feasible for the client or the client's representative to be present throughout the inspection, that person should conduct unannounced and unpredictable visits to observe the inspection process. The number of unannounced visits will depend on the results of prior visits. When observing ongoing XRF testing, review the test results for the room equivalent currently being tested and for the previously inspected room equivalent. Even if the first visit is fully satisfactory, follow-up visits should be conducted throughout the inspection.

### 2. Immediate Provision of Results

The client, or a representative, should ask the inspector to provide copies or printouts of results on completed data forms immediately following the completion of the inspection or on a daily basis. Alternatively, the client, or a representative, should visually review the inspector's written results to ensure that they are properly recorded for all surfaces that require XRF testing. If surfaces have been overlooked or recorded incorrectly, the inspection process should be stopped and considered deficient. Clients should retain daily results to ensure that the data in the final report are the same as the data collected in the home.

### 3. Repeated Testing of 10 Surfaces

Data from HUD's private housing lead-based paint hazard control program show that it is possible to successfully retest painted surfaces without knowing the exact spot which was tested.

Select 10 testing combinations at random from the already compiled list in the "Single-Family Housing LBP Testing Data Sheet" for retesting (see forms in Addendum 2 of this chapter). Observe the inspector during the retesting. If possible, the same XRF instrument used in the original inspection should be used in the retesting. If the XRF instrument used in the original inspection is not available and cannot be returned to the site, use an XRF of the same model for retesting. Use the same procedures to retest the 10 testing combinations. The 10 repeat XRF results should be compared with the 10 XRF results previously made on the same testing combinations.

The repeat readings and the original readings should not be corrected for substrate bias for the purpose of this comparison. The average of the 10 repeat XRF results should not differ from the 10 original XRF results by more than the retest tolerance limit. The procedure for calculating the retest tolerance limit is specified in the PCS. If the limit is exceeded, the procedure should be repeated using 10 different testing combinations. If the retest tolerance limit is exceeded again, the original inspection is considered deficient.

#### 4. Time-and-Motion Analysis

Anyone who contracts for a lead-based paint inspection can also perform a simple check to determine if the inspector had sufficient time to complete the number of housing units reported as being tested in the time allotted. Usually, inspections require at least 1 to 2 hours per housing unit using technology in common use at the time of publication of these *Guidelines*, with the number of rooms and the complexity of the surfaces among the factors that affect the inspection duration. A one-bedroom apartment may require considerably less time. If the inspector's on-site time is significantly less than the expected duration, the situation should be looked into further to determine if the inspector actually completed the work described in the report.

### I. Documentation in Single-Family Housing

#### 1. Data Forms

Data can be recorded on handwritten forms, electronically, or by a combination of these two methods. XRF readings can be entered on handwritten forms, such as the set of forms provided in Addendum 2 – Data Collection Forms (or comparable forms). Because handwriting and keyboard entry can result in transcription errors, handwritten and keyboard-entered forms should be examined for missing data and copying errors.

#### 2. Electronic Data Storage

Electronic data storage is recommended only if the data recorded are sufficient to allow another person to find the testing combination that corresponds to each XRF reading. Electronically stored data should be printed in hard copy either daily or at the completion of the inspection, unless the inspector (or the inspection firm) has an electronic data archiving procedure in place. The data should be examined for extraneous symbols, extra data, and missing data, including missing test location identification. In most cases, electronic data storage is supplemented by manual data recording of sampling location, operator name, and other information, although some XRF instruments allow at least some of this supplemental information to be stored on the instrument.

#### 3. Final Report

The final report must include both a summary and complete information about the site, the inspector, the inspection firm, the inspection process, and the inspection results. Report writing is an important element of completing lead-based paint inspections. The professional responsibilities of an inspector include writing reports that are well-written, understandable, and meet EPA requirements. Clients, such as owners, are encouraged to request report revisions for clarity and regulatory compliance.

The full report should include a complete data set, including:

- ◆ Date of each inspection.

- ◆ Address of building.
- ◆ Date of construction.
- ◆ Apartment numbers (if applicable).
- ◆ Name, address, and telephone number of the owner or owners of each residential dwelling or child-occupied facility.
- ◆ Name, signature, and certification number of each certified inspector and/or risk assessor conducting testing.
- ◆ Name, address, and telephone number of the certified firm employing each inspector and/or risk assessor, if applicable.
- ◆ Each testing method and device and/or sampling procedure employed for paint analysis, including quality control data and, if used, the serial number of any x-ray fluorescence (XRF) device.
  - It is typical to include the name of the instrument manufacturer and model number, as well.
- ◆ Specific locations of each painted component tested for the presence of lead-based paint.
  - It may be helpful to provide the numbering system or sketches that identify building components and room equivalents.
- ◆ The results of the inspection expressed in terms appropriate to the sampling method used.
  - The report should start with a plain-language summary of the results of the inspection.
    - ◆ As part of its overview of the results of the inspection, the summary should answer two questions:
      - Is there lead-based paint in the house?
      - If lead-based paint is present, where is it located?
  - The report should include the final classification of all testing combinations into positive or negative categories, including a list of testing combinations, or building component types and their substrates, which were classified but not individually tested (see below).
  - It is typical to include tables or listings of all XRF readings (including calibration check readings), and of the results of any paint-chip analyses that were performed (including the name, address, telephone number and NLLAP recognition number of the laboratory(ies) that conducted the analyses). If codes or abbreviations for building components and/or locations have been used in order to shorten the time needed for data entry, the inspection report must include a table showing their meaning.

As noted above, the final report should **not** list inconclusive readings as a third category in addition to positive and negative. The report should include the actual readings for any testing combinations for which readings were inconclusive, and were classified as positive by assumption, **or** which, after the XRF testing, were analyzed by a laboratory recognized by EPA, under NLLAP, for analysis of lead in paint, and what the results of that analysis were, including the paint level and whether or not it is lead-based paint.

Note that final classifications are needed for building component types and their substrates that were not actually tested in the single-family property. For example, if the client wants to suspend testing on testing combinations that were found to be positive in the first five room equivalents and are assumed to be positive in the remaining rooms, the final report should list those testing combinations that are assumed to be positive.

The summary should also contain language regarding disclosure, such as one of the following blocks of text, based on whether lead-based paint was found or was not found, respectively:

### **Recommended Report Language On Disclosure Where Lead-Based Paint Was Identified in Target Housing**

Results of this inspection must be provided to new lessees (tenants) and prospective buyers of this property under Federal law (24 CFR part 35 and 40 CFR part 745) before they become obligated under a lease or sales contract. The complete report must be provided by the owner to prospective buyers and it must be made available to prospective tenants, and to renewing tenants if they have not been provided the information previously. The inspector's plain language summary of the report must be provided to the client (e.g., property owner or manager) when the complete report is provided. The landlord (lessor) or seller is also required to distribute an educational pamphlet approved by the U.S. Environmental Protection Agency and include the Lead Warning Statement in the leases or sales contracts to ensure that parents have the information they need to protect their children from lead-based paint hazards. Complete disclosure requires the landlord/sellers and renters/buyers (and their agents) to sign and date acknowledgement that the required information and materials were provided and received. Also, prospective buyers must be provided the opportunity to have their own lead-based paint inspection, lead hazard screen or risk assessment performed before the purchase agreement is signed; the standard period is 10 days, but this period may be changed or waived by agreement between the seller and prospective buyer. EPA regulations require the inspector to keep the inspection report for at least 3 years.

(See section IV of chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* for further details; see [www.hud.gov/lead](http://www.hud.gov/lead).)

## Recommended Report Language For Disclosure Where No Lead-Based Paint Was Identified in Target Housing

The results of this inspection indicate that no lead in amounts greater than or equal to 1.0 mg/cm<sup>2</sup> in paint was found on any building components, using the inspection protocol in chapter 7 of the *HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (current Revision as of the date of the inspection)*. However, some painted surfaces may contain levels of lead below 1.0 mg/cm<sup>2</sup>, which could create lead dust or lead-contaminated soil hazards if the paint is turned into dust by abrasion, scraping, or sanding. This report should be kept by the inspector and the owner, and all future owners for the life of the dwelling. EPA regulations require the inspector to keep the inspection report for at least 3 years.

**Sales:** Disclosure is required when selling this dwelling. The complete report must be provided by the owner (seller) to prospective buyers. The inspector's plain language summary of the report must be provided to the client (e.g., property owner or manager) when the complete report is provided. The seller is required to distribute the report, an educational pamphlet approved by the U.S. Environmental Protection Agency, and include the Lead Warning Statement in the sales contract to ensure that parents have the information they need to protect their children from lead-based paint hazards. Complete disclosure requires the seller (and any agents) to sign and date acknowledgement that the required information and materials were provided and received. Furthermore, prospective buyers must be provided the opportunity to have their own lead-based paint inspection, lead hazard screen and/or risk assessment performed before the purchase agreement is signed; the standard period is 10 days, but this period may be changed or waived by agreement between the seller and prospective buyer.

**Leases:** This dwelling qualifies for the exemption in 24 CFR part 35 and 40 CFR part 745 for target housing being *leased* that is free of lead-based paint, as defined in the rule. No disclosure is required when renewing a lease or leasing this dwelling to new tenants.

(See section IV of chapter 7 of the *HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* for further details; see [www.hud.gov/lead](http://www.hud.gov/lead).)

Detailed documentation of the XRF testing should also be provided in the full report, including the raw data upon which it was based. The single-family housing forms provided at the end of this chapter or comparable forms would serve this purpose.

For a leased home, where no lead-based paint is identified during an inspection, the building owner is exempt from the requirements of the disclosure rule. However, when a housing unit with no lead-based paint is being sold, the owner still has responsibilities under the Disclosure Rule (e.g., providing a lead hazard information pamphlet to potential buyers), so owners should take measures to ensure the preservation and availability of the reports for the life of the building. For

leasing properties where no lead-based paint is identified, it is strongly recommended that owners retain inspection reports for the life of the building, in order to prove that leases in the building are exempt from the disclosure rule. Owners may wish to make arrangements with inspectors to store their copy of the report for longer than the 3 years required of the inspector (40 CFR 745.227(i); this also applies to risk assessment reports). (See Appendix 6 for more information on the Disclosure Rule.)

## V. Inspections in Multi-family Housing

This section emphasizes the additional considerations for random sampling of large housing buildings or projects. The protocols mentioned in earlier sections are not repeated here. It will be necessary to read section IV on single-family housing to implement the protocol for multi-family housing.

Use of the multi-family protocol is less time-consuming and more cost effective than inspecting all units in a given housing development or building because in most instances a pattern can be determined after inspecting a fraction of the units. The number of units tested is based on the date of construction and the number of units in the housing development.

- ◆ For purposes of this chapter only, multi-family housing is defined as any group of more than four units that are similar in construction from unit to unit.

### A. Statistical Confidence in Dwelling Unit Sampling

The number of similar units, similar common areas or exterior sites to be tested (the sample size) is based on the total number units, similar common areas or exterior sites in the building(s), as specified in Table 7.3. Use the table for sampling each set of similar units, each set of similar common areas, and each set of exterior sites, separately (that is, do *not* add the number of units, common areas and exterior sites, and then use the table for the total). For pre-1960 or unknown-age buildings or developments with 1,040 or more similar units, similar common areas or exterior sites, test 5.8 percent of them, and round up any fraction to the next whole number. For 1960-77 buildings or developments with 1,000 or more units, test 2.9 percent of the units, and round up any fraction to the next whole number. For reference, the table shows entries from 1500 to 4000 in steps of 500. For example, in a development built in 1962, with 200 similar units, 20 similar common areas, and 9 similar exterior sites, sample 27 units, 16 common areas, and all 9 exterior sites.

If lead levels in *all* units, common areas or exterior sites tested are found to be below the 1.0 mg/cm<sup>2</sup> standard, these sample sizes provide 95 percent confidence that:

- ◆ For pre-1960 housing units, less than 5 percent or fewer than 50 (whichever is less) units, common areas or exterior sites, have lead at or above the standard; and
- ◆ For 1960 to 1977 housing units, less than 10 percent or fewer than 50 (whichever is less) units, common areas or exterior sites, have lead at or above the standard.

The National Survey of Lead and Allergens in Housing (<http://www.hud.gov/offices/lead/researchers.cfm>) showed that there are fewer lead paint hazards in 1960-1977 housing than in older housing (Jacobs et al., 2002). A higher margin of error was allowed for 1960-1977 housing units to focus resources on housing with the greatest hazards. Refer to Appendix 12 of these *Guidelines* for the statistical calculations for this table. The Appendix shows the details of the calculation for pre-1960-1977 housing, which are the same for 1960-1977 housing except for using the 10 percent criterion rather than the 5 percent criterion used for older housing.

Although the data set used to develop sample sizes in multi-family housing was not randomly selected from all multi-family housing developments in the nation (no such data set is available), analyses drawn from the data are likely to err on the side of safety and public health for at least two reasons: First, the prevalence and amounts of lead-based paint are highest in pre-1960 housing developments. The sampling approach used here focuses inspection efforts on buildings where a greater chance of lead-based paint hazards exist.

The statistical rationale and calculations used to develop sample sizes in multi-family housing is based on a data set which contains approximately 164,000 XRF readings from 23,000 room equivalents in 3,900 units located in 65 housing developments. Statistical and theoretical analyses completed for HUD are available through the Lead Clearinghouse at 1-800-424-LEAD and in Appendix 12.

Second, and perhaps more important, none of the 65 developments had lead-based paint in 5 to 10 percent of the units. That indicates lead-based paint in this range is likely to be quite rare and that plausible increases in sampling to improve detection in this range will fail to improve confidence in the results significantly. Most painting follows a pattern: Property owners or managers often paint all surfaces, all components within a room, or similar components in all rooms in a unit when there is tenant turnover. It is unlikely that lead-based paint distributions are completely random, as assumed in the 1995 edition of the *Guidelines*. From the available data, there appears to be no significant benefit to increasing the number of units to be sampled to detect a prevalence rate of 5 to 10 percent, because few developments are likely to be in that range. In short, the sampling design presented here will yield a more targeted, cost-effective approach to identifying lead-based paint where it is most likely to exist.

#### **B. Selection of Housing Units, Common Areas, and Exterior Site Areas.**

The first step in selecting housing units is to identify buildings in the development with a common construction based on written documentation or visual evidence of construction type. Such buildings can be grouped together for sampling purposes. For example, if two buildings in the development were built at the same time by the same builder and appear to be of similar construction, all of the units in the two buildings can be grouped for sampling purposes, as can the common areas, and exterior site areas. Units can have different sizes, floor plans, and number of bedrooms and still be grouped allowing use of table 7.3 to determine the minimum number to be inspected. Similar common areas can be grouped for sampling purposes using the table to determine the minimum number to be inspected, as can similar exterior sites. (Do *not* add the number of units, common areas and exterior sites, and then use the table for the total.)



**Table 7.3 Number of Units to be Tested in Multi-family Building or Developments\***

Number of Similar Units, Similar Common Areas, or Similar Exterior Sites	Pre-1960 or Unknown-Age Building or Development: Number of Units to Test *	1960-1977 Building or Development: Number of Units to Test *
1-10	All	All
11-13	All	10
14	All	11
15	All	12
16-17	All	13
18	All	14
19	All	15
20	All	16
21-26	20	16
27	21	17
28	22	18
29	23	18
30	23	19
31	24	19
32	25	19
33-34	26	19
35	27	19
36	28	19
37	29	19
38-39	30	20
40-48	31	21
49-50	31	22
51	32	22
52-53	33	22
54	34	22
55-56	35	22
57-58	36	22
59	37	23
60-69	38	23
70-73	38	24
74-75	39	24
76-77	40	24

Number of Similar Units, Similar Common Areas, or Similar Exterior Sites	Pre-1960 or Unknown-Age Building or Development: Number of Units to Test *	1960-1977 Building or Development: Number of Units to Test *
78-79	41	24
80-88	42	24
89-95	42	25
96-97	43	25
98-99	44	25
100-109	45	25
110-117	45	26
118-119	46	26
120-138	47	26
139-157	48	26
158-159	49	26
160-177	49	27
178-197	50	27
198-218	51	27
219-258	52	27
259-279	53	27
280-299	53	28
300-379	54	28
380-499	55	28
500-776	56	28
777-939	57	28
940-1004	57	29
1005-1022	58	29
1023-1032	59	29
1033-1039	59	30
1500	87	44
2000	116	58
2500	145	73
3000	174	87
3500	203	102
4000	232	116

\* For brevity, "Number of Units" and "Number of Units to Test" are used, but the number to test is the same for similar units, similar common areas, and similar exterior sites.

The specific units to be tested should be chosen *randomly* from a list of all units in each building or buildings. (For brevity, just “units” are mentioned in describing the random selection procedure, but the procedure is the same for similar units, similar common areas, and similar exterior sites.) The “Selection of Units” form (Form 7.4) or a comparable form may be used to aid in the selection process. A complete list of all units in each group should be used and a separate identifying sequential number must be assigned to each unit. For example, if apartment addresses are shown as 1A, 1B, 2A, 2B etc., they must be given a sequence number (1, 2, 3, 4, etc.).

Obviously, units without identifiers could not be selected for inspection and would thus bias the sampling scheme. The list of units should be complete and verified by consulting building plans or by a physical inspection of the development.

Specific units to be tested should be selected randomly using the formula below, and a table of random numbers or the random number function on a calculator. Tables of random numbers are often included in statistics books. Today’s common full-function computer spreadsheet software products (e.g., Apple’s Numbers, Corel’s Quattro Pro, Microsoft’s Excel, and OpenOffice.org’s Calc,)<sup>1</sup> have random number generator functions of sufficient quality for use in lead-based paint inspections. Inspectors are, therefore, advised to use them to obtain the random numbers, which can then be used to select the specific numbered units. A unit number is selected by rounding up the product of the random number times the total number of units in the development to the *next* whole number. That is:

Housing Unit number = Random number *times* Total number, rounded up, where:

Housing Unit number = the identification number for a unit in a list;

Random number = a random number between 0 and 1; *and*

Total number = the total number of units in a list of units.

For example, if there is a total of 50 units in the development, and one of the random numbers is 0.196411, the product of the total number of units *times* that random number ( $50 \times 0.196411$ ) is 9.82055, which is rounded up to 10, which would point to the 10<sup>th</sup> unit on the list of units.

The same unit may be selected more than once by this procedure. For example, another of the random numbers in the 50-unit development example above could be 0.18347, for which the product ( $50 \times 0.18347$ ) would be 9.1735, which is also rounded up to 10, pointing to the same 10<sup>th</sup> unit on the list. Because each unit should be tested only once, duplicate selection should be documented and then the duplicate unit should be discarded. The selection procedure should be continued until an adequate number of units have been selected.

The “Selection of Units” form (Form 7.4 in Addendum 2) is completed by filling in as many random numbers as are needed in the appropriate column. Numbers for the third column are obtained by multiplying the total development size by each random number. Numbers for the fourth column are obtained by rounding up from the previous calculation to the next whole number. If the whole number in the fourth column has already been selected, that selection should not be entered again. The notation “DUP” should be entered to show that the selection was a duplicate. This process should continue until the required number of distinct sample numbers has been selected. Common areas and exterior room equivalents should be identified at this time, but they are not considered to be separate units. Addendum 1, Examples of Lead-Based Paint Inspections, includes detailed guidance on the random selection procedure in multi-family housing, and other information about single-family and multi-family inspections.

### C. Listing Testing Combinations and Common Areas

The “Multi-family Housing LBP Testing Data Sheet” form (Form 7.5 in Addendum 2) – or a comparable form – should be used to list the testing combinations in each unit, common area and exterior site that was selected for inspection. In multi-family housing, the inventory of testing combinations often will be similar for units that have the same number of bedrooms. The inspector should, however, list testing combinations that are unique to each tested unit. For example, some units may contain built-in cabinets while others do not. The selection of testing combinations should, therefore, be carried out independently in each inspected unit.

As in single family housing, take readings on all testing combinations in all room equivalents in each unit selected for testing. However, common areas need to be identified and tested as well.

#### Common Areas

Similar common areas and similar exterior sites must always be tested, but in some cases they can be sampled in much the same way that dwelling units are. Common areas and building exteriors typically have a similar painting history from one building to the next. In multi-family housing, each common area (such as a building lobby, laundry room, or hallway) can be treated like a dwelling unit. If there are multiple similar common areas, they may be grouped for sampling purposes in exactly the same way as regular dwelling units are. However, dwelling units, common areas and exterior sites cannot all be mixed together in a single group.

All testing combinations within each common area or on building exteriors selected for testing must be inspected. This includes playground equipment, benches and miscellaneous testing combinations located throughout the development. The specific common areas and building exteriors to test should be randomly selected, in much the same way as specific units are selected using random numbers. (See section IV.B, above.)

The number of common areas to test should be taken from Table 7.3. In this instance, common areas and building exteriors can be treated in the same way as housing units (although they are not to be confused with true housing units).

### D. Classification of XRF Results in Multi-family Housing

The inspector should record each XRF reading for each testing combination on the “Multi-family Housing LBP Testing Data Sheet,” (Form 7.5) or a comparable form, and indicate whether that testing combination was classified as positive, negative, or inconclusive as described previously for single-family housing.

When the inspection is completed in all of the selected units and the classification rules have been applied to all XRF results, the “Multi-family Housing: Component Type Report” form (Form 7.6) or a comparable form should be completed. Building component types – groups of like components constructed of the same substrate in the multi-family housing development – are aggregated on this form. For example, grouping all interior walls would create an appropriate component type if all walls are plaster. Grouping all doors would not be appropriate; however, if some doors are metal and some are wood. At least 40 testing combinations of a given component type in a multi-family housing development must be tested to obtain the desired level of confidence in the results for that component type. (Refer to Appendix 12 of these *Guidelines* for the statistical rationale for this minimum number of component types to test.) If fewer than 40 testing combinations of a given component type were tested, test additional combinations of that component type. If fewer than 40 components of a given type exist in the units to be tested, test all of the components that do exist.

In some cases additional sampling of the specific component may not be necessary. If no lead at or above the standard is found on that component type, additional measurements should be taken in other units to increase the sample size to 40. However, if all or most of the sampled component types are positive, no further sampling is needed, provided that the building owner agrees with this reduction of testing. For example, if 20 out of 60 doors are tested, and the majority is positive for lead-based paint, all similar doors in the buildings may be presumed positive; only those doors tested and found negative may be treated as negative. Note that the inspector and owner may not presume a component is negative. All required XRF testing and/or laboratory analysis must be completed to conclude that any or all components included in a given component type are negative.

On the “Multi-family Housing: Component Type Report” form, the substrate and the component for each component type should be recorded under the heading “Description” (for example, wooden interior doors), as should the total number of testing combinations included in the component type. In addition, for each component type, the aggregated positive, negative, and inconclusive classifications should be recorded as described below. Record the number and percentage of testing combinations classified as:

- ◆ **Positive** for lead-based paint. This is based upon a positive XRF reading in accordance with the XRF’s Performance Characteristic Sheet;
- ◆ **Low Inconclusive** for lead-based paint. This is based on having XRF readings less than the midpoint of the XRF’s inconclusive range (if the XRF instrument does not have an inconclusive range (that is, it has a threshold value), this aggregation element should not be provided);
- ◆ **High Inconclusive** (high) for lead-based paint. This is based on having XRF readings equal to or greater than the midpoint of the XRF’s inconclusive range (if the XRF instrument does not have an inconclusive range (that is, it has a threshold value), this aggregation element should not be provided); and
- ◆ **Negative** for lead-based paint.

The “Multi-family Decision Flowchart” (figure 7.3) should be used to interpret the aggregated XRF testing results in the “Multi-family Housing: Component Type Report” form. The flowchart is applied separately to each component/substrate type (wood doors, metal window casings, etc.) and shows one of the following results:

- ◆ **Positive:** Lead based-paint is present on one or more of the components.
- ◆ **Negative:** Lead based-paint is not present on the components throughout the development. (Lead may still be present at lower loadings and hazardous leaded dust may be generated during modernization, renovation, repair, remodeling, maintenance, painting or other disturbances of painted surfaces.)

These results are obtained by following the flowchart. The decision that lead-based paint is present is reached with 99 percent confidence if 15 percent or more of the components are positive. (Refer to Appendix 12 for the statistical rationale for this percentage.) The decision that lead-based paint is not present throughout the development is reached if:

- (1) 100 percent of the tested component types are negative, or
- (2) 100 percent of the tested component types are classified as either negative or inconclusive *and* all of the inconclusive classifications have XRF readings less than the midpoint of the inconclusive range for the XRF in use.
  - ◆ Note that the midpoint of the inconclusive range is *not* a threshold; it is used only for classifying XRF readings in multi-family housing in conjunction with information about other XRF readings as

FIGURE 7.3 Multi-family Decision Flowchart



<sup>1</sup> "Positive," "negative," and "inconclusive XRF readings are determined in accordance the XRF instrument's Performance Characteristic Sheet (PCS) as described in Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead Hazards in Housing*.

<sup>2</sup> A high inconclusive reading is an XRF reading at or above the midpoint of the inconclusive range (if it equals) around 1.0 mg/cm<sup>2</sup> for the instrument model that is used (see PCS).  
For example, if the model's PCS states the inconclusive range is 0.41 to 1.39, then the midpoint would be 0.90. A high inconclusive reading would be from 0.90 to 1.39, and a low inconclusive reading would be from 0.41 to 0.39.

<sup>3</sup> You may assume any part or coating contains lead-based paint, even without XRF or laboratory analysis. Similarly, you may confirm any XRF reading by laboratory analysis.

described here. (See section 2 below for guidance on what to do when the percentage of positive readings is less than 5%.)

- ◆ For cases with greater than or equal to 5% positives *and* less than 15% positives, as well as no positives but greater than 15% high inconclusives, some confirmatory laboratory testing may be needed to reach a final conclusion, unless the client wishes to assume the validity of the XRF results and that all inconclusives are positive.
  - For each testing combination with an inconclusive XRF reading at or above the midpoint of the inconclusive range, a paint-chip sample should be analyzed by a laboratory recognized by the EPA NLLAP for the analysis of lead in paint.
  - If all the laboratory-analyzed samples are negative, it is not necessary to test inconclusive XRF results below the midpoint of the inconclusive range.
  - If, however, *any* laboratory results are positive on a component type, all inconclusives equal to or above the midpoint of the inconclusive range should be analyzed, or they should be presumed to be positive.
- ◆ Once all laboratory results have been reported, the “Multi-family Housing: Component Type Report” form should be updated to include the laboratory results and classifications (either positive or negative).

The “Multi-family Decision Flowchart” is based on data collected by EPA in a large field study of XRF instruments (EPA 1995b). Percentages were chosen so that, for each component type, there is a 98 percent chance of correctly concluding that lead-based paint is either absent on all components or present on at least one component of a given type. Thus, the probability that a tested component type will be correctly classified is very high.

Percentages of positive or inconclusive results are computed by dividing the number in each classification group by the total number of testing combinations of the component type that were tested. For example, if 245 wooden doors in a multi-family housing development were tested and 69 were classified as inconclusive with XRF readings less than the midpoint of the inconclusive range, 28 percent  $[(69 / 245) \times 100 \text{ percent} = 28.2 \text{ percent}]$  should be recorded on the form in the “<1.0 percent” columns under the heading “Inconclusive.”

## 1. Unsampld Housing Units

If a particular component type in the sampled units is classified as positive, that same component type in the unsampled units is also classified as positive. For those cases where the number of positive components is small, further analysis may determine if there is a systematic reason for the specific mixture of positive and negative results.

For example, suppose that a few porch railings tested negative, but most tested positive. Examination of the sample results in conjunction with the building records showed that the porch railings classified as positive were all original and the railings classified as negative were all recent replacements. The records did not reveal which units had replaced railings, and due to historic preservation requirements, the replacement railings were identical in appearance to the old railings. Thus, all unsampled original porch railings could be classified as positive, and all unsampled recently replaced porch railings could be classified as negative if at least 40 of the replaced porch railings had been tested.

## 2. Fewer than 5% Positive Results

Where a small fraction of XRF readings, less than 5 percent, of a particular component type are positive, several choices are available:

- ◆ First, the inspector may confirm the results by laboratory analysis, which is considered definitive when performed as described in section VI, below; a laboratory lead result of 1.0 mg/cm<sup>2</sup> or greater (or 0.5 percent by weight or greater) is considered positive.
- ◆ Second, the inspector may select a second random sample (using unsampled units only) and test the component type in those units. If less than 2.5% of the combined set of results is positive, the component type may be considered as having lead-based paint in isolated locations, but not having lead-based paint development-wide, with a reasonable degree of confidence. Individual components that are classified positive should be considered as being lead-based painted and managed or abated appropriately.
- ◆ Finally, if the client chooses not to confirm the results by laboratory analysis and not to take a second set of measurements, then the component type should be considered as having lead-based paint development-wide.

The inspector may wish to advise the client that the cost of additional XRF testing or laboratory analysis is usually much less than the cost of lead abatement or interim control projects. This is of particular interest in the situation where few results are positive, because there is a significant chance that the paint, development-wide, may not be lead-based.

Whatever approaches are used, all painted individual surfaces found to be positive for lead must be included in the inspection report, regardless of development-wide conclusions.

### E. Documentation in Multi-family Housing

The method for documentation is identical for multi-family and single-family housing (see section IV.I), with the following exception: Use forms 7.2 through 7.6 for multi-family housing (see Addendum 2) or comparable forms, not the single-family housing forms.

When lead-based paint has been found in some units it must be managed or treated as such in those units, even if the inspection indicates that it is not present development-wide.

## VI. Laboratory Testing for Lead in Paint-chip Samples

For inconclusive XRF results, areas that cannot be tested using an XRF instrument, and for client-approved confirmation of XRF, a paint-chip sample should be collected using the protocol outlined here and in Appendix 13.2 of these *Guidelines* and/or ASTM E1729, Standard Practice for Field Collection of Dried Paint Samples for Subsequent Lead Determination. The sample should be analyzed by a laboratory recognized under the EPA National Lead Laboratory Accreditation Program (NLLAP) for the analysis of lead in paint using the analytical method(s) it used to obtain the laboratory's recognition. If a paint-chip sample cannot be collected, the inspection report should include a list of surfaces where paint-chip samples were needed but not taken; the paint on these components is presumed positive.



### A. Number of Samples

Only one paint-chip needs to be taken for each testing combination. Additional samples can be collected as a quality control measure, if desired, and are recommended.

### B. Size of Samples

The paint-chip sample should be taken from a 4-square-inch (25-square-centimeter) or larger area that is representative of the paint on the testing combination, as close as possible to any XRF reading location and, if possible, unobtrusive (see Figure 7.4). This area may be a 2 by 2 inch (5 by 5 centimeter) square, or a 1 by 4 inch (2½ by 10 centimeter) rectangle, or have any other dimensions that equal at least 4 square inches (25 square centimeters). Regardless of shape, the dimensions of the surface area must be accurately measured (to the nearest 1/16th of an inch or millimeter) and recorded, so that laboratory results can be reported in mg/cm<sup>2</sup>. Results should be reported as percent by weight if the dimensions of the surface area cannot be accurately measured or if all paint within the sampled area cannot be removed. In these cases, lead should be reported in ppm or percent by weight, *not* in mg/cm<sup>2</sup>. Smaller surface areas can be used if acceptable to the laboratory. The 4-square-inch (25-square-centimeter) area practically guarantees that a sufficient amount of paint will be collected for laboratory analysis. As a result, samples will sometimes weigh more than required for some laboratory analysis methods. Smaller-sized paint-chips may be collected if permitted by the laboratory (see ASTM E1729). In all cases, the inspector should consult with the NLLAP-recognized laboratory selected regarding specific requirements for the submission of samples for lead-based paint analysis.

### C. Inclusion of Substrate Material

Inclusion of small amounts of substrate material in the paint-chip sample will result in minimal error if results are reported in mg/cm<sup>2</sup>, but including any amount of substrate can result in less precise results, with worse effect as the amount of substrate increases. Substrate material shall not be included if results are to be reported in weight percent (or ppm) (see Figure 7.5).

### D. Repair of Sampled Locations

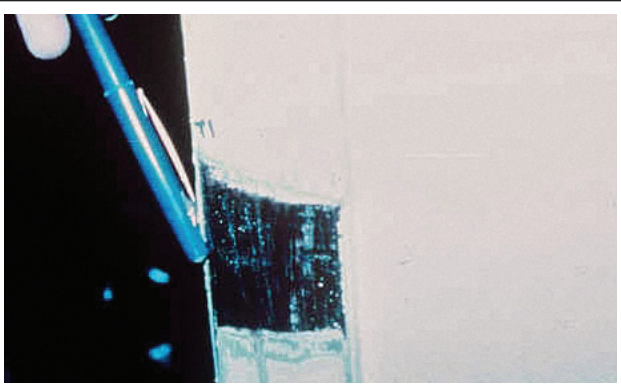
Property owners or managers should ensure that areas from which paint-chip samples are collected should be repaired and cleaned, unless the area will be removed, encapsulated, enclosed,



**FIGURE 7.4** Preparing to take a paint-chip sample for laboratory analysis.



**FIGURE 7.5** Removing paint-chip sample.



**FIGURE 7.6** Damage caused by removal of paint-chip from substrate.

or repainted before occupancy. (Lead-based paint inspectors and risk assessors are not generally responsible for repainting, unless specified in their contracts.) Repairs can be completed by repainting, spackling, or any other method of covering that renders the bare surface inaccessible. Cleanup should be done with wet wiping and rinsing, and it should be done on both the surface and the floor underneath the surface sampled. The new covering or coating should have the same expected longevity as new paint or primer. Repair is not necessary if analysis shows that the paint is not lead-based paint and leaving the damage is acceptable to the client and/or the owner (see Figure 7.6).

### **E. Classification of Paint-chip Sample Results**

Any paint inspections may be carried out using only paint-chip sampling and laboratory analysis at the option of the client, such as the property owner or manager or other purchaser of the inspection services. This option is not recommended because it is time consuming, costly, and requires extensive repairs. Paint-chip sampling also has opportunities for errors, such as inclusion of substrate material (for results in weight percent), failure to remove all paint from an area (including paint that has bled into a substrate) and laboratory error. Nevertheless, paint-chip sampling generally has a smaller error than does XRF and is, therefore, appropriate as a final decision-making tool. Laboratory results of 1.0 mg/cm<sup>2</sup> or greater, or 0.5 percent or greater, are to be considered positive. If the laboratory reports both mg/cm<sup>2</sup> and weight percent for a sample, if either result is positive, use that one for final classification, or both, if they are both positive. In the rare situation where more than one paint-chip sample from a single testing combination is analyzed, the combination is considered positive if any of those samples is positive. All other results are negative. No inconclusive range is reported for laboratory measurements.

### **F. Units of Measure**

Results should be reported in mg/cm<sup>2</sup>, the primary unit of measure for lead-based paint analyses of surface coatings. Results should be reported as percent by weight only if the dimensions of the surface area cannot be accurately measured or if not all paint within the sampled area can be removed. In these cases, results should not be reported in mg/cm<sup>2</sup>, but in weight percent.

Weight measurements are usually reported as micrograms per gram (µg/g), milligrams per kilogram (mg/kg), or parts per million (ppm) by weight. For example, a sample with 0.2 percent lead may also be reported as 2,000 µg/g lead, 2,000 mg/kg lead, or 2,000 ppm lead.

### **G. Sample Containers**

Samples should be collected in sealable rigid containers such as screw-top plastic centrifuge tubes, rather than plastic bags which generate static electricity and make quantitative transfer of the entire paint sample in the laboratory impossible. Paint-chip collection should include collection of all the paint layers from the substrate, but collection of actual substrate should be minimized. Refer to ASTM E 1729 and Appendix 13 of these *Guidelines* for further details on collection of paint-chip samples.

## H. Laboratory Analysis Methods

Several standard laboratory technologies are useful in quantifying lead levels in paint-chip samples. These methods include, but are not limited to, Atomic Absorption Spectroscopy (AAS), Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES), Anodic Stripping Voltammetry (ASV), and Potentiometric Stripping Analysis (PSA).

For analytical methods that require sample digestion, samples should be pulverized so that there is adequate surface area to dissolve the sample before laboratory instrument measurement. In some cases, the amount of paint collected from a 4-square-inch (25-square centimeter) area may exceed the amount of paint that can be analyzed successfully. It is important that the actual sample mass analyzed not exceed the maximum mass the laboratory has successfully tested using the specified method. If subsampling is required to meet analytical method specifications, the laboratory must homogenize the paint-chip sample (unless the entire sample will eventually be analyzed and the results of the subsamples combined). Without homogenization, subsampling would likely result in biased, inaccurate lead results (see ASTM E 1645 Standard Practice for Preparation of Dried Paint Samples by Hotplate or Microwave Digestion for Subsequent Lead Analysis, and ASTM E1979 Standard Practice for Ultrasonic Extraction of Paint, Dust, Soil, and Air Samples for Subsequent Determination of Lead).

If the sample is properly homogenized and substrate inclusion is negligible, the result can be reported as a loading, in milligrams per square centimeter ( $\text{mg}/\text{cm}^2$ ), the preferred unit, or as percent by weight, or both. The following equation should be used to report the results in milligrams per square centimeter:

$$\text{mg}/\text{cm}^2 = \frac{\text{weight of lead from sample subsample (in mg)}}{\text{area (in cm}^2\text{)}} \times \left( \frac{\text{total sample weight (in g)}}{\text{subsample weight (in g)}} \right)$$

To report results in weight percent, the following equation should be used:

$$\text{Weight percent} = \frac{\text{weight of lead from subsample (in } \mu\text{g)}}{\text{subsample weight (in } \mu\text{g)}} \times 100\%$$

To report results in micrograms per gram ( $\mu\text{g}/\text{g}$ ), the following equation should be used:

$$\mu\text{g}/\text{g} = \frac{\text{weight of lead from subsample (in } \mu\text{g)}}{\text{subsample weight (in g)}}$$

If the laboratory reports results in both  $\text{mg}/\text{cm}^2$  and weight percent, and if one result is positive and the other negative, the sample is classified as positive.

Whatever the preparation techniques of paint-chip samples (including homogenization, grinding, and digestion), and instrument selection and operation selected, the inspector should verify, prior to the collection and submission of samples, that the laboratory is approved to perform the appropriate analytical methodologies. Methods should be applied to paint-chip materials of approximately the same mass and lead loading (also called area concentration, measured in  $\text{mg}/\text{cm}^2$ ) as those samples anticipated from the field.

Because of the potential for sample mass to affect the precision of lead readings, laboratory analysis reference materials processed with field samples for quality assurance purposes should have close to the same mass as those used for paint-chip samples. Refer to ASTM E1645 or equivalent methods for further details on laboratory preparation of paint-chip samples, and refer to ASTM E1613, ASTM E2051, or equivalent methods on analysis of samples for lead, and the related E1775 Guide for Evaluating Performance of On-Site Extraction and Field-Portable Electrochemical or Spectrophotometric Analysis for Lead.

## I. Laboratory Selection

A laboratory used for lead-based paint analysis must be recognized under EPA's National Lead Laboratory Accreditation Program (NLLAP) for analysis of lead in paint, with one exception. The exception is for analyzing samples collected where States or Tribes operate an EPA-authorized lead-based paint inspection certification program that has paint testing requirements different from the EPA requirements, in which case the State or Tribal requirements must be followed. NLLAP-recognized laboratories are required to use the same analytical methods for analyzing the sample that they used to obtain NLLAP recognition.

EPA established NLLAP to provide the public with laboratories that have a demonstrated capability for analyzing lead in paint-chip, dust, and/or soil samples at the levels of concern stated in these *Guidelines*. NLLAP monitors the analytical proficiency, management and quality control procedures of each laboratory participating in the program. NLLAP does not specify or recommend analytical methods. Information on this program can be obtained by calling the National Lead Information Center at 1-800-424-LEAD. (Hearing- or speech-challenged individuals may access this number through TTY by calling the toll-free Federal Relay Service at 800-877-8339.) Useful information on the NLLAP program is available on the EPA web site at <http://www.epa.gov/lead/pubs/nllap.htm>.

To participate in NLLAP, a laboratory must, as summarized on the EPA's NLLAP web page, <http://www.epa.gov/lead/pubs/nllap.htm>:

- ◆ Be accredited by an organization EPA recognizes as an accrediting body for lead sample analysis. As part of the accreditation process, a laboratory undergoes a systems audit, including an on-site visit, by one of the accrediting bodies. To apply for accreditation as a lead sample analysis laboratory recognized under NLLAP, laboratories contact an accrediting body. NLLAP specifies quality control and data reporting requirements, as described in its "Laboratory Quality System Requirements," (LQSR) which, as of the publication of this edition of these *Guidelines*, was in version 3 (<http://www.epa.gov/lead/pubs/lqsr3.pdf>). EPA has developed a Model Memorandum of Understanding (<http://www.epa.gov/lead/pubs/nllapmou.pdf>) for other organizations, including States and Tribes, to become NLLAP accrediting bodies. As of the publication of these *Guidelines*, EPA recognized three such NLLAP accrediting bodies.
- ◆ Participate successfully in the periodic (currently quarterly) Environmental Lead Proficiency Analytical Testing Program (ELPAT), administered by the AIHA Proficiency Analytical Testing Programs, LLC (an affiliate of the American Industrial Hygiene Association (AIHA)) in cooperation with the Centers for Disease Control and Prevention's (CDC's) National Institute for Occupational Safety and Health (NIOSH), and EPA. The proficiency testing samples used in ELPAT consist of various levels of lead in paint, dust, and soil matrices. An accredited laboratory is recognized only for the analysis of only those matrices for which it is proficient; the laboratory

decides which matrices it will analyze for lead for purposes of obtaining NLLAP recognition. Field-portable XRF measurement of lead in paint does not involve collecting a sample of the paint, so it is not covered by NLLAP, and the measurements need not be performed by an NLLAP-recognized laboratory. See Chapter 7 for further guidance.

Field-portable XRF analysis has been used for measurement of lead in dust (Sterling, 2000; Harper, 2002) or soil (EPA, 2004; Binstock, 2009) with varying degrees of success; these methods do involve collecting a sample of the medium, so samples collected from target housing or pre-1978 child-occupied facilities, must be analyzed by a laboratory recognized by NLLAP for analysis of lead in the particular medium. The laboratory may be a mobile laboratory, field sampling and measurement organization, or a fixed-site laboratory, as discussed in Section II.E.6, above.

Information on NLLAP, including an up-to-date list of fixed-site and mobile laboratories recognized by NLLAP, can be obtained on the EPA web site at <http://www.epa.gov/lead/pubs/nllap.htm>, or by calling the National Lead Information Center at 800-424-LEAD. (Hearing- or speech-challenged individuals may access this number through TTY by calling the toll-free Federal Relay Service at 800-877-8339.)

## J. Laboratory Report

The laboratory report for analysis of paint samples for lead should include both identifying information and information about the analysis. At a minimum, this should include the information outlined in the LQSR version 3's section 5.10.2, Test Reports. In addition to the minimum requirements in that section, test reports containing the results of sampling must include specified sampling information, if available. (Inspectors may find the LQSR version 3's Appendix I, Acronyms and Glossary of Terms Associated with the NLLAP, helpful.)

## VII. XRF Hazards

As the U.S. Nuclear Regulatory Commission (NRC) notes, "ionizing radiation (such as x-rays and cosmic rays) is more energetic than non-ionizing radiation. Consequently, when ionizing radiation passes through material, it deposits enough energy to break molecular bonds and displace (or remove) electrons from atoms. This electron displacement creates two electrically charged particles (ions), which may cause changes in living cells of plants, animals, and people." ([www.nrc.gov/about-nrc/radiation/health-effects/radiation-basics.html](http://www.nrc.gov/about-nrc/radiation/health-effects/radiation-basics.html))

XRF instruments used in accordance with the manufacturer's instructions will not cause significant exposure to ionizing radiation. The operator should be trained by the instrument's manufacturer (or equivalent), instrument's shutter should never be pointed at anyone, even if the shutter is closed, it should be in the operator's possession at all times, it should not be dropped or tossed, and no one should ever defeat or override any of its safety mechanisms.

Some portable XRF instruments used for lead-based paint inspections contain one or more radioactive isotopes that emit X-rays and gamma radiation; some portable XRF instruments use an X-ray tube to generate X-rays. Proper safety training and handling of these instruments is required to protect the instrument operator and any other persons in the immediate vicinity during XRF usage.

### A. Licenses and Certifications for Using XRFs with Radioactive Sources

In addition to training and certification in lead-based paint inspection, a person using a portable XRF instrument for inspection that has (one or more) radioactive X-ray sources must have valid licenses or permits from the appropriate Federal, State, and local regulatory bodies to possess (through ownership or lease), and to operate, such an instrument.

All portable XRF instrument operators should be trained by the instrument's manufacturer (or equivalent). XRF operators using an instrument with a radioactive source should provide related training, licensing, permitting, and certification information to the person who has contracted for their services before an inspection begins. Depending on the State, such operators may be required to hold three forms of proof of competency: manufacturer's training certificate (or equivalent) for the operator, a radiation safety license for the firm or entity using the XRF, and a State lead-based paint inspection certificate or license to perform the requested inspection services. To help ensure competency and safety, HUD and EPA recommend that clients hiring inspectors who will use XRF instruments with a radioactive source hire only those who hold all three forms of proof of competency.

The regulatory body responsible for oversight of the radioactive materials contained in portable XRF instruments depends on the type of material being handled. Some radioactive materials are federally regulated by the NRC; others are regulated at the State level. States are generally categorized as "agreement" or "non-agreement" States. An agreement State has an agreement with NRC to regulate radioactive materials that are generally used for medical or industrial applications. ([www.nrc.gov/about-nrc/state-tribal/agreement-states.html](http://www.nrc.gov/about-nrc/state-tribal/agreement-states.html)) (Most radioactive materials found in XRF instruments are regulated by agreement States). For non-agreement States, NRC retains this regulatory responsibility directly. At a minimum, however, most State agencies require prior notification that a specific XRF instrument is to be used within the State. Fees and other details regarding the use of portable XRF instruments vary from State to State. Contractors who provide inspection services must hold current licenses or permits for handling XRF instruments, and must meet any applicable State or local laws or notification requirements.

Requirements for radiation dosimetry by the XRF instrument operator (wearing dosimeter badges to monitor exposure to radiation) are generally specified by State regulations, and vary from State to State. In some cases, for some isotopes, no radiation dosimetry is required. Because the cost of dosimetry is low, it should be conducted, even when not required, for the following four reasons:

- ◆ XRF instrument operators have a right to know the level of radiation to which they are exposed during the performance of the job. In virtually all cases, the exposure will be far below applicable exposure limits.
- ◆ Long-term collection of radiation exposure information can aid both the operator (employee) and the employer. The employee benefits by knowing when to avoid a hazardous situation; the employer benefits by having an exposure record that can be used in deciding possible health claims.
- ◆ The public benefits by having exposure records available to them.
- ◆ The need for equipment repair can be identified more quickly.

## B. Safe Operating Distance

**All XRF Instruments:** XRF instruments used in accordance with manufacturer's instructions will not cause significant exposure to ionizing radiation. But the instrument's shutter should never be pointed at anyone, even if the shutter is closed. The safe operating distance between an XRF instrument and a person during inspections depends on the source type, radiation intensity, quantity (if any) of radioactive material, and the density of the materials being surveyed. As the radiation source intensity increases, the required safe distance also increases. Placing materials, such as a wall, in the direct line of fire, reduces the required safe distance. Persons should not be near the other side of a wall, floor, ceiling or other surface being tested. Operators should verify that this is indeed the case prior to initiating XRF testing activities, and check on it during testing (see Figure 7.7).



**FIGURE 7.7** Lead inspectors should operate XRF instruments at a safe distance from others.

**XRF Instruments with Radioactive Sources:** According to NRC rules regarding radioactive sources of radiation, the radiation dose to a member of the general public must not exceed 2 millirems per hour. (10 CFR 20.1301(a)(2). (The regulation can be found through <http://ecfr.gpoaccess.gov/>, or at <http://www.nrc.gov/reading-rm/doc-collections/cfr/part020/part020-1301.html>.) This can be compared to the 0.07 millirems per hour the NRC says is the average American radiation dose. One of the most intense sources used in portable XRF instruments is a 40-millicurie <sup>57</sup>Co (Cobalt-57) radiation source. Other radiation sources in current use for XRF testing of lead-based paint generally produce lower levels of radiation. Generally, an XRF operator conducting inspections according to manufacturer's instructions would be exposed to radiation well below the regulatory level. One study found that exposures to radiation during operation of a Scitec MAP 3 XRF were 132 microrem/day (Wisconsin, 1994). Typically, XRF instruments with lower gamma radiation intensities can use a shorter safe distance provided that the potential exposure to an individual will not exceed the regulatory limit.

If these practices are observed, the risk of excessive exposure to ionizing radiation is extremely low and will not endanger any inspectors or occupants present in the dwelling.

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# Addendum 1: Examples of Lead-Based Paint Inspections

## A. Example of a Single-Family Housing Inspection

The inspector completed the “Single-Family Housing LBP Testing Data Sheet,” recording “bedroom (room 5)” as the room equivalent and listing “plaster” as the first substrate. The completed inventory of testing combinations in the bedroom indicated the presence of wood, plaster, metal, and drywall substrates. Brick and concrete substrates were not present in the bedroom. Descriptions of all testing combinations in the bedroom were recorded. Completed form 7.1, Single Family LBP Test Data Sheet, shows the completed inventory for all testing combinations in the bedroom. (Completed forms are found in Addendum 2, after the blank forms.)

Before any XRF testing, the inspector noted the date and starting time in her field notes, and then performed the manufacturer’s recommended warm up procedures. The film was placed more than 12 inches (0.3 meters) away from any other surface. The inspector then took three calibration check readings (1.18 mg/cm<sup>2</sup>, 0.99 mg/cm<sup>2</sup>, and 1.07 mg/cm<sup>2</sup>) on the NIST SRM with a lead level of 1.02 mg/cm<sup>2</sup>. Results of the first calibration check readings were recorded on the “Calibration Check Test Results” form (see Completed Form 7.2).

The inspector then averaged the three readings (1.08 mg/cm<sup>2</sup>), and computed the calibration difference (1.08 mg/cm<sup>2</sup> - 1.02 mg/cm<sup>2</sup> = 0.06 mg/cm<sup>2</sup>) and compared this to the calibration check tolerance shown in the *XRF Performance Characteristic Sheet* (see Completed Form 7.2) for the particular XRF make, model and testing mode used. The calibration difference was not greater than the 0.20 calibration check limits around the NIST SRM standard of 1.02 mg/cm<sup>2</sup>, that is, the difference was within the range of 0.82 mg/cm<sup>2</sup> to 1.22 mg/cm<sup>2</sup>, inclusive. The instrument was considered in calibration, and XRF testing could begin.

For each component type measured in a room equivalent, the inspector entered the replication number to record its amount/quantity type in that room equivalent. There were two closet doors in the room that were just like each other, so the replication number was 2. During the inspection, some components were not tested. To maintain a complete inventory of surfaces in the house, the inspector used the applicable code from the list at the bottom of Form 7.1. The codes were CPT = carpeted floor; ED = Entry Denied, for situations in which the owner, tenant or someone else denied the inspector access to the room or to test the particular component; IN = Inaccessible, for physical reasons, such as for situations in which the room was locked, debris in front of a window prevented reaching the window safely, etc.; and NC = Not Coated/Painted surface, for those surfaces that are not varnished, painted, lacquered or otherwise coated.

The inspector recorded the results from the XRF testing in the bedroom on the “Single-Family Housing LBP Testing Data Sheet.” At that point, the inspector was able to complete this form only through the XRF Reading column (see Completed Form 7.1). The remainder of the form was completed after the testing combinations in the house were inspected and correction values for substrate bias were computed. The inspector then moved on to inspect the next room equivalent.

The other bedroom, the kitchen, a living room, and a bathroom were also inspected. Three substrates – wood, drywall, and plaster – were found in these room equivalents. XRF testing for lead-based paint was conducted, using the same methodology employed in the first bedroom (room 5). After these five room equivalents were tested, the inspector noticed that all baseboards and all crown molding of the same substrate had XRF values of more than 5.0 mg/cm<sup>2</sup>. The client had agreed earlier that testing could be abbreviated in this situation, so no further baseboard and crown molding testing combinations were tested in the remaining room equivalents. All similar remaining untested baseboard and crown molding with identical substrates were classified as positive in the final report based on the results of those tested. The raw data for the tested baseboards and crown moldings were also included in the final report.

Four hours after the initial calibration check readings, the inspector took another set of three calibration check readings. (If the inspection had taken less than 4 hours, as is common, the second calibration check test would have been conducted at the end of the inspection.) The readings were 1.45 mg/cm<sup>2</sup>, 1.21 mg/cm<sup>2</sup>, and 1.10 mg/cm<sup>2</sup>; the inspector recorded the results on the “Calibration Check Test Results” form (Completed Form 7.2). The inspector then averaged the three readings (1.25 mg/cm<sup>2</sup>), and computed the calibration difference (1.25 mg/cm<sup>2</sup> - 1.02 mg/cm<sup>2</sup> = 0.23 mg/cm<sup>2</sup>) and compared this to the calibration check tolerance shown in the *XRF Performance Characteristic Sheet* on Completed Form 7.2. The calibration difference exceeded the 0.20 calibration check tolerance. The inspector then marked “Failed calibration check” on the data sheets for those room equivalents that had been inspected since the last – successful calibration check test, and consulted the manufacturer’s recommendations. After trying, the instrument could not be brought back into control. Consequently, the inspector began using a backup instrument, after performing a calibration check and manufacturer’s warm up and quality control procedure. The calibration check test showed that the backup instrument was operating acceptably. The inspector used the backup instrument to reinspect the room equivalents checked with the first instrument, and then all the other room equivalents in the home. Next, because substrate correction was required for all results on wood and metal below 4.0 mg/cm<sup>2</sup> as specified in the *XRF Performance Characteristic Sheet* for the XRF model in use, the inspector prepared to take readings for use in the substrate correction computations. Using the random number function on a calculator and the list of sample location numbers, the inspector randomly selected two testing combinations each with wood and metal substrates where initial readings were less than 2.5 mg/cm<sup>2</sup>, removed the paint from an area on each selected testing combination slightly larger than the faceplate of the XRF instrument, took three readings on the bare substrates, and recorded the readings on the “Substrate Correction Values” form (Completed Form 7.3). The inspector calculated the correction values for each substrate by averaging the six readings from the two test locations, rounded the result to the 2 places after the decimal point that the XRF instrument displayed, and recorded the information in the Correction Value row. The inspector then transferred the correction values to the “Single-Family Housing LBP Testing Data Sheet” for each corresponding substrate.

After the inspector had finished taking the readings needed to compute the substrate correction values, the inspector took another set of three calibration check readings. The inspector recorded the results on the “Calibration Check Test Results” form, under Second Calibration Check, for readings taken by the backup XRF instrument (Completed Form 7.2). The second (and final) calibration check average did not exceed the 0.20 calibration check tolerance. The inspector, therefore, deemed the XRF testing to be complete.

The inspector then calculated the corrected readings by subtracting the substrate correction value from each XRF result taken on a wood or metal substrate. The substrate correction value was obtained by averaging readings on bare surfaces that had initially measured less than 2.5 mg/cm<sup>2</sup> with the paint still on the surface (Completed Form 7.3). The inspector also used the inconclusive ranges obtained from the XRF Performance Characteristic Sheet (0.41 mg/cm<sup>2</sup> to 1.39 mg/cm<sup>2</sup>) for the particular XRF make, model and testing mode used, for all substrates except plaster (inconclusive range 1.01 mg/cm<sup>2</sup> to 1.09 mg/cm<sup>2</sup>). Based on the valid window sill XRF readings, including substrate corrections for wood, there were initially 10 positive results, 2 inconclusive results, and 3 negative results in the bedroom. The two inconclusive results required paint-chip sampling with laboratory confirmation; this resulted in one positive and one negative result. When she completed entering information into the tables, and turned off and stored her equipment, the inspector noted the date and ending time of the inspection in her field notes.

## B. Example of Multi-family Housing Inspection

This section presents a simple example of a multi-family housing development inspection. An actual inspection would have many more testing combinations than are provided here.

The inspector's first step was a visual examination of the development to be tested. During this pre-testing review, buildings with a common construction and painting history were identified and the date of construction – 1962 – was determined. The construction and painting history of all the units was found to be similar, so that units in the development could be grouped together for sampling purposes. The inspector determined that the development had 55 units, and by consulting Table 7.3, determined that 22 units should be inspected.

The inspector used the "Selection of Housing Units" form (Completed Form 7.4) to randomly select units to inspect. The total number of units, 55, was entered into the first column of the form. The random numbers generated from a calculator (a computer's spreadsheet program or database program could have been used as well) were entered into the second column. The first random number, 0.583, was multiplied by 55 (the total number of units), and the product, 32.0 (which showed the first decimal place of the 32.065 calculator result), was entered in the third column. The product was rounded up from 32.1 to 33, and 33 was written in the fourth column, indicating that the 33rd unit would be tested. Other units were selected using the same procedure. When a previously selected unit was chosen again, the inspector crossed out the repeated unit number and wrote "DUP" (for duplicate) in the last column. The inspector continued generating random numbers until 35 distinct units had been selected for inspection.

Some detailed guidance on the random selection process is as follows:

- ◆ An option, if more than half of the units are to be inspected, is to randomly determine the units that would *not* be inspected and then to select the remaining units for inspection.
- ◆ Random numbers: When using the random number, which will be a long string of digits, you may use just a few decimal place digits of the random number for the calculation:
  - When there are under 100 units being inspected, you may use just the first three decimal places.
  - For more than 100 units, you may use just the first four decimal places,
  - For more than 1000 units, you may use just the first five decimal places.

- Option: If you are using a computer to do the multiplication as well as generating the random number, you may use the random number as the computer generates it, without shortening it.
- ◆ Multiplications: In order to be clear on the form about how units are selected when the multiplication gives a result close to a whole number, the following procedure (or an equivalent procedure) should be used:
  - If the first decimal place of the product is from .1 to .8 (such as 55 times 0.107 = 5.885 in the second row of the filled-in Form 7.4), you may record and use just the **first** decimal place (such as 5.8). The housing unit number, which is the round-up to the next whole number, is 6 in this case.
  - If the first decimal place of the product is .0 (such as 55 times 0.873 = 48.015 in the third row of the form), or .9 (such as 55 times 0.636 = 34.980 in the fourth row from the bottom of the form), you may record and use just the **first two** decimal places, 48.01 and 34.98 in these two cases. The housing unit numbers, which are the round-ups to the next whole number, are 49 and 35 in these two cases.
  - Options: You may record and use the first two decimal places for all multiplications. If you are using a computer to do the multiplication as well as generating the random number, you may let the computer do the calculation without shortening the product. An example of the formulas that could be used is the following (showing the first three rows of the spreadsheet):

1	Total Number of Units	Random Number*	Random Number times Total Number of Units #	Round up for Unit Number to be Sampled
2	55	=RAND()	=A2*B2	=INT(C2+1)
3	55	=RAND()	=A3*B3	=INT(C3+1)

After identifying units to be inspected, the inspector conducted an inventory of all painted surfaces within the selected units. The inspector completed Form 7.5, the “Multi-family Housing LBP Testing Data Sheet” for every testing combination found in each room equivalent within each unit. This multi-family Form 7.5 is intentionally the same as the single family Form 7.1, and the instructions on using the form for single family housing, in Section A of this Addendum 1, above, apply to using it for multi-family housing. (Completed forms are found in Addendum 2, after the blank forms.) Completed Form 7.5 is an example of the completed inventory for the bedroom of the first unit to be inspected. The inventory showed that the bedroom was composed of four substrates and eight testing combinations of the following components: (1) one ceiling beam, (2) two doors, (3) four walls, (4) one window casing, (5) two door casings, (6) three shelves, (7) two support columns, and (8) one radiator. Where more than one of a particular component was present, except walls, one was randomly selected for XRF testing. Component location descriptions were recorded in the “Test Location” column. Drywall and brick substrates were not present in the bedroom.

Testing combinations not common to all units were added to the inventory list. The inspector also noted which types of common areas and exterior areas were associated with the selected units, identified each of these common and exterior areas as a room equivalent, and inventoried the corresponding testing combinations **based on the appropriate number of common areas and exteriors as is required by table 7.3.**

The inspector inventoried the remaining 34 units selected and their associated types of common areas and exterior areas before beginning XRF testing in the development. Alternatively, the inspector could have inventoried each room equivalent as XRF testing proceeded.

After completing the inventory, the inspector went to the first unit selected for sampling, and noted the date and starting time in her field notes. She then performed the XRF manufacturer's recommended warm up and quality control procedures successfully. Then the inspector took three calibration check readings on a 1.02 mg/cm<sup>2</sup> NIST SRM film. The calibration check was accomplished by attaching the film to a wooden board and placing the board on a flat wooden table. Readings were then taken with the probe at least 12 inches (0.3 meters) from any other potential source of lead. The following readings were obtained: 1.12, 1.00, and 1.08 mg/cm<sup>2</sup>. These calibration check results were recorded on the "Calibration Check Test Results" form (Completed Form 7.2). The difference between the first calibration check average and 1.02 mg/cm<sup>2</sup> (NIST SRM) was not greater than the 0.3 mg/cm<sup>2</sup> calibration check tolerance limit obtained from the *XRF Performance Characteristic Sheet* for the particular XRF make, model and testing mode used, indicating that the XRF instrument was in calibration and that XRF testing could begin. (See the single-family housing example, in section A, above, of this addendum, for a description of what to do when the calibration check tolerance is exceeded.)

The inspector began XRF testing in the bedroom by taking one reading on each testing combination listed on the inventory data sheet. XRF testing continued until all concrete, wood, and plaster component types were inspected in the bedroom. The XRF readings were recorded on the "Multi-family Housing LBP Testing Data Sheet" form (Completed form 7.5). According to the XRF Performance Characteristic Sheet (PCS), the XRF instrument in use did not require correction for substrate bias for any of the substrates encountered in the development, so the XRF classification column was completed at that time. The inspector used the rules for classifying the XRF readings as positive, negative, or inconclusive. The inspector also used the inconclusive ranges obtained from the PCS (0.41 mg/cm<sup>2</sup> to 1.39 mg/cm<sup>2</sup>). The midpoint of the inconclusive range was then calculated to be 0.90 mg/cm<sup>2</sup>  $[(0.41 \text{ mg/cm}^2 + 1.39 \text{ mg/cm}^2)/2 = 0.90 \text{ mg/cm}^2]$ . The results of the classifications were recorded in the Classification column of the "Multi-family Housing LBP Testing Data Sheet" form. Classifications for all testing combinations within the unit were computed in the same manner as for the bedroom.

Once inspections were completed in all of the 35 selected units of the development, the inspector completed the "Multi-family Housing: Component Type Report" form (Completed Form 7.6). A description of each component type was recorded in the first column, the total number of each tested component type was entered in the second column, and the number of testing combinations classified as positive for each component type from the "Multi-family Housing LBP Testing Data Sheet" (Completed Form 7.5) was calculated and entered in the third column. The inspector then did the same for the testing combinations classified as negative, that is, XRF readings up to and including 0.40 mg/cm<sup>2</sup>, and for inconclusive classifications with XRF readings less than the midpoint of the inconclusive range, that is, XRF readings from 0.41 mg/cm<sup>2</sup> to 0.89 mg/cm<sup>2</sup>, and for inconclusive classifications with XRF readings equal to or greater than the mid-point of the inconclusive range, that is 0.90 mg/cm<sup>2</sup> to 1.39 mg/cm<sup>2</sup>. Using these readings and the total number of the component type sampled, the inspector computed and recorded the percentages of positive, negative, and inconclusive classifications for each component type.

After entering the number of testing combinations for each component type in the “Multi-family Housing Component Type Report” form, the inspector noticed that only 34 wood door casings had been inspected. Because it is necessary to test at least 40 testing combinations of each component type, the inspector arranged with the client to test six more previously untested door casings. Additional units were randomly selected from the list of unsampled units. An initial calibration check test was successfully completed and the six door casings were tested for lead-based paint. Another calibration check test indicated that the XRF instrument remained within acceptable limits. The inspector then updated the “Multi-family Housing: Component Type Report” form by crossing out with one line the row of the form that showed the original, insufficient number of component types for testing; the inspector then wrote the information on the full 40 wood door casings in a new row.

The inspector used the “Multi-family Decision Flowchart” (figure 7.3) to evaluate the component type results. Because 100 percent of the plaster walls and metal baseboards tested negative for lead, the inspector concluded that no lead-based paint had been detected on any plaster walls or metal baseboards in the development, including those in uninspected units, and entered “NEG” in the Overall Classification column. The inspector also observed that shelves, hall cabinets, and window casings had no positive results. For all of the other component types, 15% or more of the readings for each type were positive; after choosing *not* to perform additional XRF readings or laboratory analysis on those components, that is, to rely on the XRF readings, the inspector entered “POS” in the Overall Classification column for them. For the shelves, all the XRF results were negative or inconclusive and less than 0.90 mg/cm<sup>2</sup> (“low inconclusive”) so the inspector, in accordance with the flowchart, entered “NEG” in the Overall Classification column. The hall cabinets and window casings were classified as inconclusive with some readings greater than or equal to 0.90 mg/cm<sup>2</sup> (“high inconclusive”). The inspector determined that over 15 percent of the readings taken on these component types were high inconclusives. The inspector chose to take additional samples for laboratory analysis, to see if any or all of the samples would be determined to be negative by laboratory analysis.

The inspector collected paint-chip samples from the inconclusive component types, but only from testing combinations where XRF readings were equal to or greater than 0.90 mg/cm<sup>2</sup>, the midpoint of the inconclusive range. Paint-chip samples were taken from 32 sampling locations: 12 hall cabinets, 7 window casings and 13 metal radiators. The paint-chip samples were collected from a 4-square-inch (25 square-centimeter) surface area on each component. Each paint-chip sample was placed in a hard-shelled plastic container, sealed, given a uniquely-numbered label, and sent to the laboratory for analysis. A chain of custody form describing the samples was included in the submission. When she completed entering the information on the form, and turned off and stored her equipment, the inspector noted the date and ending time of the inspection in her field notes.

The laboratory returned the results to the inspector, who entered the laboratory results and classifications on the appropriate “Multi-family Housing LBP Testing Data Sheet” (Form 7.5). Laboratory results of all 7 paint-chip samples taken from the window casings were classified as negative. The laboratory results of 5 samples from the hall cabinets were classified as positive, and 7 as negative. The metal radiator results were classified as 9 positives and 4 negatives.

The “Multi-family Decision Flowchart” was applied to the results shown in the “Multi-family Housing: Component Type Report” to determine the appropriate classification for each component type. The inspector classified all shelves and window casings as negative, based either on the XRF substrate-corrected readings and the laboratory confirmation analysis, respectively. Therefore,

no further lead-based paint testing was required for the shelves and window casings. About 9.1 percent (none positive by XRF analysis and 5 positive by lab analysis of the 55 that were inspected) of all hall cabinets in the housing development had lead-based paint. About 70 percent of the metal radiator paint chips were positive by lab analysis.

Final decisions made by the development client regarding the hall cabinets and radiators that have some lead-based paint were based on various factors, including:

- ◆ The substantially lower cost of inspecting all hall cabinets in the development versus replacing all of those cabinets;
- ◆ The higher cost but shorter time frame to strip or replace radiators without testing versus testing and only treating radiators with lead-based paint;
- ◆ Future plans, including renovating the buildings within three years; and
- ◆ The HUD/EPA disclosure rule requirements regarding the sale or rental of housing with lead-based paint.

In this case, the client chose to remove the positive and untested radiators to be stripped offsite and reinstalled. The client also arranged for testing hall cabinets in all of the unsampled units to determine which were positive, and which were negative. To verify the accuracy of the inspection services, the client asked the inspector to retest 10 testing combinations. The retest was performed according to instructions obtained from the *XRF Performance Characteristic Sheet*. The client appointed an employee to randomly select 10 testing combinations from the inventory list of 2 randomly selected units. The employee observed the inspector retesting the 10 selected testing combinations, using the same XRF instrument and procedures used for the initial inspection. A single XRF reading was taken from each of the 10 testing combinations. The average of the 10 repeat XRF results was calculated to be 0.674 mg/cm<sup>2</sup>, and the average of the 10 previous XRF results was computed to be 0.872 mg/cm<sup>2</sup>. The absolute difference between the two averages was computed to be 0.198 mg/cm<sup>2</sup> (0.872 mg/cm<sup>2</sup> minus 0.674 mg/cm<sup>2</sup>). The Retest Tolerance Limit, using the formula described in the *XRF Performance Characteristic Sheet* for the particular XRF make, model and testing mode used, was computed to be 0.231. Because 0.198 mg/cm<sup>2</sup> is less than 0.231 mg/cm<sup>2</sup>, the inspector concluded that the inspection had been performed competently. The final summary report also included the address of the inspected units, the date(s) of inspection, the starting and ending times for each inspected unit, and other information described in section V.I of chapter 7.

At the end of the work shift, the inspector took a final set of three calibration check readings using the same procedure as for the initial calibration check. The following readings were obtained: 0.86, 1.07 and 0.94 mg/cm<sup>2</sup>. The average of these readings is 0.97 mg/cm<sup>2</sup>. The difference between 0.97 mg/cm<sup>2</sup> and the NIST SRM's 1.02 mg/cm<sup>2</sup> is -0.08 mg/cm<sup>2</sup>, which is not greater in magnitude than the 0.30 mg/cm<sup>2</sup> calibration check tolerance for the instrument used. The inspector recorded that the XRF instrument was in calibration, and that the measurements taken between the first and second calibrations could be used.

## **Addendum 2:**

# **Data Collection Forms**

1. Single Family Housing LBP Testing Data Sheet (Form 7.1) – Blank
2. Single Family Housing LBP Testing Data Sheet (Form 7.1) – Completed
3. Calibration Check Test Results (Form 7.2) – Blank
4. Calibration Check Test Results (Form 7.2) – Completed
5. Substrate Correction Values (Form 7.3) – Blank
6. Substrate Correction Values (Form 7.3) – Completed
7. Selection of Housing Units (Form 7.4) – Blank
8. Selection of Housing Units (Form 7.4) – Completed
9. Multi-family Housing LBP Testing Data Sheet (Form 7.5) – Blank
10. Multi-family Housing LBP Testing Data Sheet (Form 7.5) – Completed
11. Multi-family Housing: Component Type Report (Form 7.6) – Blank
12. Multi-family Housing: Component Type Report (Form 7.6) – Completed



# Single-Family Housing LBP Testing Data Sheet

Page \_\_\_\_\_ of \_\_\_\_\_

Address/Unit No. \_\_\_\_\_ Date \_\_\_\_\_

Room Equivalent \_\_\_\_\_

XRF Serial No. \_\_\_\_\_ Inspector Name \_\_\_\_\_ Signature \_\_\_\_\_

Sample ID#	Substrate	Component	Color	Test Locations	XRF Reading	Correction Value	Result	Classification (pos, neg, inc)	Laboratory Result	UNITS	Final Classification
										mg/cm <sup>2</sup>	
										%	
										mg/cm <sup>2</sup>	
										%	
										mg/cm <sup>2</sup>	
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										mg/cm <sup>2</sup>	
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# Single-Family and Multifamily Testing LBP Testing Data Sheet

Address/Unit No. 918 Fenway Drive

Date August 19, 2012

Room Equivalent Bedroom 1 (Room 5)

XRF Serial No. RS-1967 Inspector Name Mr. Smith Signature Mo Smith

Sample ID#	Substrate	Component	Replication Number**	Test Locations*	XRF Reading	Correction Value	Result	Classification (pos, neg, inc)	Laboratory Result	Choose units	Final* Classification (pos or neg)
819.1	Plaster	Wall	5	Wall A Center	1.12 mg/cm <sup>2</sup>	NA	1.12 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.2	Plaster	Wall	5	Wall B Left	0.92 mg/cm <sup>2</sup>	NA	0.92 mg/cm <sup>2</sup>	NEG		mg/cm <sup>2</sup>	POS
819.3	Plaster	Wall	5	Wall C Right	1.31 mg/cm <sup>2</sup>	NA	1.31 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.4	Plaster	Wall	5	Wall D Right	1.12 mg/cm <sup>2</sup>	NA	1.12 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.5	Drywall	Wall	4	Closet Wall A	1.81 mg/cm <sup>2</sup>	NA	1.81 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.6	Drywall	Wall	4	Closet Wall B	1.62 mg/cm <sup>2</sup>	NA	1.62 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.7	Drywall	Wall	4	Closet Wall C	2.11 mg/cm <sup>2</sup>	NA	2.11 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.8	Drywall	Wall	4	Closet Wall D	1.85 mg/cm <sup>2</sup>	NA	1.85 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.9	Wood	Window Sill	3	Wall C Left	2.23 mg/cm <sup>2</sup>	NA	2.23 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.10	Wood	Window Sash	3	Wall C Left	2.40 mg/cm <sup>2</sup>	NA	2.40 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.11	Wood	Door	2	Wall A Center	4.20 mg/cm <sup>2</sup>	NA	4.20 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.12	Metal	Door Frame	2	Wall A Center	5.50 mg/cm <sup>2</sup>	NA	5.50 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.13	Wood	Baseboard	4	Wall D Right	>9.9 mg/cm <sup>2</sup>	NA	>9.9 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.14	Wood	Chair rail	1	Wall B Center	1.0 mg/cm <sup>2</sup>	NA	1.0 mg/cm <sup>2</sup>	INC	5400	mg/cm <sup>2</sup>	POS
	<p>While one wall (sample 819.2) was determined to be negative by XRF, the walls as a whole in this room are classified as positive because of the variability in painted surfaces due to patching and repairs has the average lead loading be 1.12 mg/cm<sup>2</sup>; specifically, (1.12 + 0.92 + 1.31 + 1.12)/4 = 1.12, which is at least 1.0.</p> <p>Sample 819.14 was inconclusive, for this XRF, at 1.0 mg/cm<sup>2</sup>. Laboratory testing confirmed LBP, with the paint concentration being at least 5000 ppm.</p>										

\* Maintain a complete inventory of surfaces, components or rooms that are not tested. Use CPT=Carpeted floor; ED=Entry Denied; IN=Inaccessible; NC=Not Coated/Painted surface  
 \*\* No. of Replications: The number of times a specific room equivalent, component, substrate, and color combination occurs. For example, if four walls are characterized by the same testing combination, the number of replications would be four.

# Calibration Check Test Results

Page \_\_\_\_ of \_\_\_\_

Address/Unit No. \_\_\_\_\_

Device \_\_\_\_\_

Date \_\_\_\_\_ XRF Serial No. \_\_\_\_\_

Contractor \_\_\_\_\_

Inspector Name \_\_\_\_\_ Signature \_\_\_\_\_

NIST SRM Used \_\_\_\_\_ mg/cm<sup>2</sup>      Calibration Check Tolerance Used \_\_\_\_\_ mg/cm<sup>2</sup>

**First Calibration Check**

NIST SRM			First Average	Difference Between First Average and NIST SRM*
First Reading	Second Reading	Third Reading		

**Second Calibration Check**

NIST SRM			Second Average	Difference Between Second Average and NIST SRM*
First Reading	Second Reading	Third Reading		

**Third Calibration Check (if required)**

NIST SRM			Third Average	Difference Between Third Average and NIST SRM*
First Reading	Second Reading	Third Reading		

**Fourth Calibration Check (if required)**

NIST SRM			Fourth Average	Difference Between Fourth Average and NIST SRM*
First Reading	Second Reading	Third Reading		

\* If the difference of the Calibration Check Average from the NIST SRM film value is greater than the specified Calibration Check Tolerance for this device, consult the manufacturer's recommendations to bring the instrument back into control. Retest all testing combinations tested since the last successful Calibration Check test.

# Calibration Check Test Results

Address/Unit No. Fenway Gardens Housing Complex

Oldtown, Maryland 21334

Device WXY Company, Inc. XRF 2.1

Date August 19, 2012 XRF Serial No. RS-1967

Contractor RIGAH PG Testing, Inc

Inspector Name Mo Smith

Signature Mo Smith

NIST SRM Used 1.02  $\text{mg/cm}^2$  Calibration Check Tolerance Used \_\_\_\_\_  $\text{mg/cm}^2$

First Calibration Check Initial reading 8:43 AM

NIST SRM			First Average	Difference Between First Average and NIST SRM*
First Reading	Second Reading	Third Reading		
1.12	1.00	1.08	1.07	0.05

Second Calibration Check Midday Reading 11:35 AM

NIST SRM			Second Average	Difference Between Second Average and NIST SRM*
First Reading	Second Reading	Third Reading		
0.86	1.07	0.89	0.94	-0.08

Third Calibration Check (if required) End of testing 2:22 PM

NIST SRM			Third Average	Difference Between Third Average and NIST SRM*
First Reading	Second Reading	Third Reading		
1.45	1.21	1.10	1.25	0.23

*Failed Calibration Check*

Fourth Calibration Check (if required)

NIST SRM			Fourth Average	Difference Between Fourth Average and NIST SRM*
First Reading	Second Reading	Third Reading		

\* If the difference of the Calibration Check Average from the NIST SRM film value is greater than the specified Calibration Check Tolerance for this device, consult the manufacturer's recommendations to bring the instrument back into control. Retest all testing combinations tested since the last successful Calibration Check test.

# Substrate Correction Values

Page \_\_\_\_\_ of \_\_\_\_\_

Address/Unit No. \_\_\_\_\_  
 \_\_\_\_\_

Date \_\_\_\_\_ XRF Serial No. \_\_\_\_\_

Inspector Name \_\_\_\_\_ Signature \_\_\_\_\_

Use this form when the *XRF Performance Characteristics Sheet* indicates that correction for substrate bias is needed.

\_\_\_\_\_  
 \_\_\_\_\_

Substrate		Brick	Concrete	Drywall	Metal	Plaster	Wood
L O C A T I O N	1	First Reading					
		Second Reading					
		Third Reading					
	2	First Reading					
		Second Reading					
		Third Reading					
Correction Value (Average of the Six Readings)							

Transfer Correction Value for each substrate to the 'Correction Value' column of the LBP Testing Data Sheet.

**Notes:**

# Substrate Correction Values

Address/Unit No. 918 Fenway Drive  
Oldtown, Maryland 21334

Date August 19, 2012 XRF Serial No. RS-1967

Inspector Name Mo Smith Signature Mo Smith

Use this form when the *XRF Performance Characteristics Sheet* indicates that correction for substrate bias is needed.

\_\_\_\_\_

\_\_\_\_\_

Substrate		Brick	Concrete	Drywall	Metal	Plaster	Wood
L o c a t i o n	1	First Reading			0.10		
		Second Reading			0.09		
		Third Reading			0.09		
	2	First Reading			0.10		
		Second Reading			0.09		
		Third Reading			0.11		
Correction Value (Average of the Six Readings)					0.10		

Transfer Correction Value for each substrate to the 'Correction Value' column of the LBP Testing Data Sheet.

**Notes:**     *Metal:        Location 1 - Door frame, Side B, Room 2 (Dining room)*  
                   *Location 2 - Door Frame, Side C, Room 3 (Kitchen)*

## Selection of Housing Units

Testing Site \_\_\_\_\_ Year Built \_\_\_\_\_ Date \_\_\_\_\_

Inspector Name \_\_\_\_\_ Signature \_\_\_\_\_ Number of Distinct Units to be Sampled

Total Number of Units	Random Number*	Random Number times Total Number of Units #	Round up for Unit Number to be Sampled	Distinct Unit Number

\* Obtain from a hand-held calculator, spreadsheet or database.  
 # Round down to 1 decimal place (e.g., 23.7), except if x.0+or x.9+, then round down to 2 decimal places (e.g., 47.02 or 34.98).

# Selection of Housing Units

Testing Site Fenway Gardens Housing Complex Year Built 1962 Date August 16, 2012

Inspector Name Mo Smith

Signature Mo Smith

Number of Distinct Units to be Sampled 22

Total Number of Units	Random Number*	Random Number times Total Number of Units #	Round up for Unit Number to be Sampled	Distinct Unit Number
55	0.583	32.0	33	1
55	0.107	5.8	6	2
55	0.873	48.01	49	3
55	0.085	4.6	5	4
55	0.961	52.8	53	5
55	0.111	6.1	7	6
55	0.575	31.6	32	7
55	0.241	13.2	14	8
55	0.560	30.8	31	9
55	0.884	48.6	49	DUP
55	0.341	18.7	19	10
55	0.851	46.8	47	11
55	0.574	31.5	32	DUP
55	0.221	12.1	13	12
55	0.103	5.6	6	DUP
55	0.375	20.6	21	13
55	0.625	34.3	35	14
55	0.395	21.7	22	15
55	0.095	5.2	6	DUP
55	0.772	42.4	43	16
55	0.761	41.8	42	17
55	0.515	28.3	29	18
55	0.855	47.02	48	19
55	0.679	37.3	38	20
55	0.636	34.98	35	DUP
55	0.622	34.2	35	DUP
55	0.323	17.7	18	21
55	0.431	23.7	34	22

\* Obtain from a hand-held calculator, spreadsheet or database.

# Round down to 1 decimal place (e.g., 23.7), except if x.0+or x.9+, then round down to 2 decimal places (e.g., 47.02 or 34.98).



# Multifamily Housing LBP Testing Data Sheet

Page \_\_\_\_\_ of \_\_\_\_\_

Address/Unit No. \_\_\_\_\_ Date \_\_\_\_\_

Room Equivalent \_\_\_\_\_

XRF Serial No. \_\_\_\_\_ Inspector Name \_\_\_\_\_ Signature \_\_\_\_\_

Sample ID#	Substrate	Component	Color	Replication Number	Test Location	XRF Reading	Correction Value	Corrected Reading	Classification (pos, neg, inc)	Laboratory Result	UNITS	Laboratory Classification

# Single-Family and Multifamily Testing LBP Testing Data Sheet

Address/Unit No. 918 Fenway Drive Date August 19, 2012  
 Room Equivalent Bedroom 1 (Room 5)

XRF Serial No. RS-1967 Inspector Name Mo Smith Signature Mo Smith

Sample ID#	Substrate	Component	Replication Number**	Test Locations*	XRF Reading	Correction Value	Result	Classification (pos, neg, inc)	Laboratory Result	Choose units	Final* Classification (pos or neg)
819.1	Plaster	Wall	5	Wall A Center	1.12 mg/cm <sup>2</sup>	NA	1.12 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.2	Plaster	Wall	5	Wall B Left	0.92 mg/cm <sup>2</sup>	NA	0.92 mg/cm <sup>2</sup>	NEG		mg/cm <sup>2</sup>	POS
819.3	Plaster	Wall	5	Wall C Right	1.31 mg/cm <sup>2</sup>	NA	1.31 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.4	Plaster	Wall	5	Wall D Right	1.12 mg/cm <sup>2</sup>	NA	1.12 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.5	Drywall	Wall	4	Closet Wall A	1.81 mg/cm <sup>2</sup>	NA	1.81 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.6	Drywall	Wall	4	Closet Wall B	1.62 mg/cm <sup>2</sup>	NA	1.62 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.7	Drywall	Wall	4	Closet Wall C	2.11 mg/cm <sup>2</sup>	NA	2.11 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.8	Drywall	Wall	4	Closet Wall D	1.85 mg/cm <sup>2</sup>	NA	1.85 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.9	Wood	Window Sill	3	Wall C Left	2.23 mg/cm <sup>2</sup>	NA	2.23 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.10	Wood	Window Sash	3	Wall C Left	2.40 mg/cm <sup>2</sup>	NA	2.40 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.11	Wood	Door	2	Wall A Center	4.20 mg/cm <sup>2</sup>	NA	4.20 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.12	Metal	Door Frame	2	Wall A Center	5.50 mg/cm <sup>2</sup>	NA	5.50 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.13	Wood	Baseboard	4	Wall D Right	>9.9 mg/cm <sup>2</sup>	NA	>9.9 mg/cm <sup>2</sup>	POS		mg/cm <sup>2</sup>	
819.14	Wood	Chair rail	1	Wall B Center	1.0 mg/cm <sup>2</sup>	NA	1.0 mg/cm <sup>2</sup>	INC	5400	mg/cm <sup>2</sup>	POS
	<p>While one wall (sample 819.2) was determined to be negative by XRF, the walls as a whole in this room are classified as positive because of the variability in painted surfaces due to patching and repairs has the average lead loading be 1.12 mg/cm<sup>2</sup>; specifically, (1.12 + 0.92 + 1.31 + 1.12)/4 = 1.12, which is at least 1.0.</p> <p>Sample 819.14 was inconclusive, for this XRF, at 1.0 mg/cm<sup>2</sup>. Laboratory testing confirmed LBP, with the paint concentration being at least 5000 ppm.</p>										

\* Maintain a complete inventory of surfaces, components or rooms that are not tested. Use CPT=Carpeted floor; ED=Entry Denied; IN=Inaccessible; NC=Not Coated/Painted surface  
 \*\* No. of Replications: The number of times a specific room equivalent, component, substrate, and color combination occurs. For example, if four walls are characterized by the same testing combination, the number of replications would be four.

# Multifamily Housing: Component Type Report

Address/Unit No. \_\_\_\_\_

\_\_\_\_\_

Date \_\_\_\_\_ XRF Serial No. \_\_\_\_\_

Inspector Name \_\_\_\_\_

Signature \_\_\_\_\_

Description	Number of Readings	POSITIVE		INCONCLUSIVE*				NEGATIVE		Comp. Type Classif.
		Number	Percent	Low		High		Number	Percent	
				Number	Percent	Number	Percent			

# Multifamily Housing: Component Type Report

Address/Unit No. Fenway Gardens Housing Complex

Date August 19, 2012 XRF Serial No. RS-1967

Inspector Name Mo-Smith Signature Mo Smith

Description	Number of Readings	POSITIVE		INCONCLUSIVE*				NEGATIVE		Comp. Type Classification
		Number	Percent	Low		High		Number	Percent	
				Number	Percent	Number	Percent			
Wood Shelves	83	4	4.8	5	6.0	9	10.8	65	78.3	NEG
Wood Doors	110	40	36.4	12	10.9	8	7.3	50	45.5	POS
Wood door Casings	34	6	17.6	5	14.7	5	14.7	18	52.9	POS
Wood Hall Cabinets	60	5	8.3	8	13.3	12	20.0	35	58.3	POS
Wood Window Stools	110	60	54.4	30	27.3	10	9.1	10	9.1	POS
Wood Window Casings	63	0	0.0	0	0.0	0	0.0	63	100	NEG
Plaster Walls	110	0	0.0	10	9.1	9	8.2	91	82.7	NEG
Concrete Support Columns	40	40	100	0	0.0	0	0.0	0	0.0	POS
Concrete Ceiling Beams	40	40	100	0	0.0	0	0.0	0	0.0	POS
Metal Baseboards	45	0	0.0	0	0.0	0	0.0	45	100	NEG
Metal Gutters	50	20	40.0	8	16.0	2	4.0	20	40.0	POS
Brick Stairway	50	10	20.0	4	8.0	6	12.0	30	60.0	POS
Metal Radiators*	55	0	0.0	11	20.0	13	23.6	31	56.4	POS
Wood Door Casings	40	12	30.0	5	12.5	5	12.5	18	45.0	POS
Metal Radiators* Retest of high inconclusive	13	9	69.2					4	30.7	POS



# Addendum 3: XRF Performance Characteristics Sheets

For current XRF Performance Characteristics Sheets, see the HUD website at: <http://www.hud.gov/offices/lead/guidelines/hudguidelines/Allpcs.pdf>.



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# Chapter 15: Clearance

## How To Do It

1. **Qualifications for clearance examiners.** The owner, funding agency, certified abatement contractor, or certified renovation contractor should select the clearance examiner, preferably before lead-based paint hazard control work begins.
  - ✦ Clearance on all projects involving abatement (as defined by EPA) must be done by a certified risk assessor or a certified lead-based paint inspector. Check with EPA regarding qualifications for clearance of non-abatement activities.
  - ✦ For properties covered by HUD's Lead Safe Housing Rule, and those of some State regulations, clearance of non-abatement work may be performed by a certified risk assessor or lead-based paint inspector, or by a certified sampling technician, if the sampling technician is working in single family units or a multi-family dwelling unit and the associated common areas. If the clearance requires development of a random sampling plan, a certified inspector or risk assessor must develop the plan and supervise the sampling technician in its use. Not all States or localities have certified sampling technicians, and some require that non-abatement clearance be conducted only by certified risk assessors or inspectors.
  - ✦ For clearing projects covered by the EPA's Renovation, Repair, and Painting (RRP) rule, a certified risk assessor, certified lead-based paint inspector, or certified dust sampling technician can perform clearance. (See below regarding clearing multi-family housing projects.)
  - ✦ To eliminate conflicts of interest, these *Guidelines* recommend the use of a clearance examiner who is completely independent of the contractor who performs the work. HUD's Lead Safe Housing Rule requires such independence for clearance of most work in HUD-assisted target housing. (See Appendix 6 for details.)
2. **Determine the clearance area.** Obtain information from the client regarding the nature and location of the work and the dust containment (if any); for an abatement, project, validate or obtain a copy of the abatement site plan. Then determine the clearance area (i.e., the dwelling units, common areas, rooms, and/or exterior areas that are subject to the clearance examination). Clearance examiner should explain all aspects of the examination to the client.
3. **Preclearance worksite inspection on behalf of the client (optional):** As part of deciding, once the lead hazard control, renovation or maintenance work has been completed, the cleanup is done, and the floors are sealed (if necessary), whether to call for the clearance examiner, the client, contractor or maintenance supervisor may conduct a visual assessment of the clearance area to determine if there is any deteriorated paint, visible settled dust, paint chips, or paint-related debris in the interior or around the exterior of the building(s). If conducted, this preliminary visual assessment should be conducted in all the dwelling units and rooms in the clearance area, except that it may be conducted in a sample of dwelling units and related common areas in a multi-family property. After the visual assessment is passed, it may also be useful to take dust samples for quick onsite analysis before calling the clearance examiner.
4. **Wait one hour for dust to settle.** Before beginning the clearance examination, wait at least 1 hour after the hazard control, renovation, or maintenance work is finished, the cleanup is done, and the floors are sealed (if necessary) to allow any leaded-dust particles to settle. Do not enter the work area during that period.

5. **Conduct visual assessment.** Conduct a visual assessment (called a visual inspection by EPA) of the clearance area to determine if there is any deteriorated paint, visible settled dust, paint chips, or paint-related debris in the interior or around the exterior of the building(s). The visual assessment should be conducted in all the dwelling units and rooms in the clearance area, except that it may be conducted in a sample of dwelling units and related common areas in a multi-family property (see chapter 7 for unit/common area sampling methods).
6. **Complete visual assessment form.** Complete a visual assessment form for clearance, such as Form 15.1 in this chapter. If any unexplained deteriorated paint or visible dust, paint chips, or paint-related debris are found, inform the client and request that hazard controls and/or cleanup be completed, as necessary, so that dust sampling can proceed. See 24 CFR 35.1340(c) for more details of what is required under the Lead Safe Housing Rule for HUD-assisted housing (see Appendix 6).
7. **Conduct dust sampling.** After the clearance area has passed visual assessment, conduct clearance dust-wipe sampling of floors, interior window sills, and window troughs using the protocol in this chapter and Appendix 13.1, or ASTM Standard E 1728 ([www.astm.org/Standard/index.shtml](http://www.astm.org/Standard/index.shtml)).
8. **Complete a dust sampling form** for clearance, such as Form 15.2 in this chapter.
9. **Submit dust samples for analysis** for lead to a laboratory recognized for analysis of lead in dust by the EPA's National Lead Laboratory Accreditation Program (NLLAP).
10. **Interpret the laboratory results** by comparing them to the applicable standards. In most jurisdictions, these will be the EPA clearance standards described in this chapter. If State or local standards differ from the EPA standards and the work being cleared is subject to HUD or EPA lead-based paint regulations, the most protective standards (EPA, State, or local) apply. If the work being cleared is not subject to HUD or EPA regulations, use State or local standards, if they exist. If State or local standards do not exist, use the EPA standards.
11. **Notify the client of the results of laboratory tests** as soon as they are received, so residents can reoccupy the clearance area as soon as possible if clearance is achieved, or recleaning can be started quickly if dust-lead levels exceed applicable standards.
12. **If clearance is achieved**, go to step 15. If not, go to follow steps 13 and 14.
13. **Repeat cleaning if clearance is not achieved.** If dust-lead levels are equal to or greater than the applicable standards, the client should order repeated cleaning. Clean all surfaces that the failing samples represent. Keep the clearance area secure until clearance is achieved.
14. **Continue sampling and repeat cleaning until the clearance area achieves compliance with applicable clearance standards.** Failure to achieve clearance is usually caused by inadequate cleaning and/or results when surfaces have not been made smooth and cleanable. Sometimes additional hazard control work is necessary.
15. **Complete related construction and final clearance.** After clearance has been achieved, any related construction work that does not disturb a surface with lead-based paint (all work that does disturb painted surfaces or that could generate leaded dust should be completed as part of the lead hazard control effort). If any additional paint-disturbing work is to be done in the clearance area, there should be another final clearance examination after such work to assure that the space is safe for occupancy. (See Section VII.C of Chapter 8.)

16. **Prepare report.** Prepare and deliver to the client a report of the clearance examination. You may use a format such as Form 15.3 in this chapter that includes all the information required in 24 CFR 35.1340(c) for reports on projects other than abatement, and in 40 CFR 745.227(e)(10) for reports on abatement projects. You may use the Clearance Report Review Worksheet (Form 15.4) to ensure that all the required information is included in the clearance report. See also the example of a filled-out Worksheet in Form 15.5.
17. **Compliance with disclosure and notification regulations.** The owner must disclose the scope and results of lead hazard control work, including clearance examination results, to lessees (tenants) and purchasers of the property under Federal law before they become obligated under a lease or sales contract. Also, if the housing is receiving Federal assistance, current residents must be notified within 15 days of receipt by the owner, of the scope and results of lead hazard control work, including the results of clearance examinations, in accordance with the HUD Lead Safe Housing Rule. See Appendix 6 for additional information.

## I. Introduction

Clearance refers generally to combined visual and quantitative environmental evaluation procedures used to determine that no lead-based paint hazards remain in the area being cleared after lead hazard controls or paint-disturbing renovation or maintenance have been done. The specific procedures used depend on exactly what the client wants to know and what regulations and standards apply.

### A. Regulations Pertaining to Clearance

The U.S. Environmental Protection Agency (EPA) issued regulations and standards at 40 CFR 745.227(e) that apply to clearance whenever abatement of lead-based paint hazards is conducted in most pre-1978 housing nationwide. These regulations apply to all abatements (i.e., measures intended to permanently eliminate lead-based paint hazards). They require that the area being cleared be free of deteriorated lead-based paint and visible dust, debris, paint chips and other residue from the work, and that lead in settled dust be below specified standards.

The U.S. Department of Housing and Urban Development (HUD) issued the Lead Safe Housing Rule, which addresses clearance at 24 CFR 35.1340(b). The regulation applies to clearance after paint stabilization, interim controls, standard treatments, rehabilitation, or ongoing lead-based paint maintenance. HUD's standards and procedures for clearance are the same as those for EPA-regulated abatement, although there are some differences in the qualifications for clearance examiners. The clearance procedures and standards described in this chapter conform to EPA and HUD regulations.

In renovations where the contract between the renovation firm and the property owner or another Federal, State, Territorial, Tribal, or local regulation requires dust clearance sampling by a certified sampling professional, EPA's Renovation, Repair and Painting (RRP) Rule allows for optional dust clearance testing in lieu of the "cleaning verification" procedure.

In projects covered by the EPA's RRP Rule for which clearance is *not* required, EPA's cleaning verification process is required. (See the description in Appendix 6.)

Some States, Indian Tribes and local governments have issued standards for clearance that may differ somewhat from the Federal requirements. In general, the most protective standards (EPA, State, or local) apply. If the EPA has authorized the State or Tribe's lead certification program, its clearance standards apply rather than the EPA's. If a local clearance standard exists and is more stringent than the State standard, use the local standard. If the work being cleared is not subject to HUD or EPA regulations, use State or local standards, if they exist. If no State or local standards exist, use the EPA standards.

If the applicable (EPA, State or local) clearance standards for lead in dust are not met, EPA and HUD require that cleaning be repeated and additional visual assessments dust testing performed until the area meets clearance standards. If dust-lead levels determined by a clearance examination remain above the clearance standards, the work is not complete; levels of lead in dust must be within clearance standards for the work to be complete.

### B. Purpose and Scope of Clearance

The primary purpose of the standard EPA-HUD clearance examination is to determine whether the clearance area is safe for occupancy or for entry by unprotected workers. The clearance report must include, among other elements described in Section X.B, below, information about the lead

hazard control work, which may only be available from the owner or the contractor. You may use the Clearance Report Review Worksheet to insure that the clearance report is complete (See Form 15.4).

If exterior work was performed, the clearance examiner determines, by a visual assessment, if the ground near the work is free of debris, and, through soil-lead sampling and analysis by a laboratory recognized by NLLAP for analysis of lead in soil, if the concentration of lead in nearby soil is below the applicable soil-lead standards. Guidance on optional purposes of clearance examinations is provided in this chapter.

In this chapter, the work that generates the need for a clearance examination is referred to as “the work,” regardless of whether it is abatement or interim controls of lead-based paint or lead-based paint hazards, rehabilitation, renovation, remodeling, or maintenance.

The standard Federal clearance examination has four main phases:

1. A visual assessment of: (a) interior clearance areas to identify any deteriorated paint that may be lead-based and visible dust and debris and (b) exterior areas, if exterior work was performed, to identify any deteriorated paint that may be lead-based and paint chips or other debris near the work surfaces;
2. The collection and analysis of dust samples from interior spaces by wipe sampling;
3. Interpretation of dust sampling results, and follow-up dust testing if the initial results failed to meet applicable standards and additional cleaning is necessary; and
4. Preparation and signing of the clearance report.

Interior clearance may not be necessary if the work was only on the outside and building openings (windows, doors, and vents) were tightly closed or sealed during the work. Airborne dust sampling is not recommended for clearance purposes in lead hazard control work because the results vary due to air flow, particle size, and available dust. In addition, most children are *not* lead-poisoned by inhalation (ATSDR, 1988)

Interior and exterior areas being cleared should be free of deteriorated paint that is or may be lead-based because deteriorated lead-based paint has been determined to be a lead-based paint hazard. Clinical cases of childhood lead poisoning (i.e., cases with relatively high levels of lead in the blood) often result from ingestion of leaded paint chips. If testing has shown that deteriorated paint is not lead-based, the deteriorated paint need not be repaired for the purpose of passing clearance. Interior areas being cleared should also be free of visible dust, loose paint chips and paint-related debris, and exterior areas should be free of paint chips and paint-related debris. Repair of deteriorated paint and cleanup of interior dust, paint chips, and paint-related debris must occur before dust samples are taken because the repair of the paint and cleaning of dust and debris may contaminate the area.

The collection and analysis of dust samples is a critical part of the interior clearance examination. Lead in settled house dust is the most common source of childhood lead exposure. A visual examination alone is not adequate for determining if the interior of a residence is safe for occupancy, because small dust particles are not visible to the naked eye (NCHH, 2002). Lead hazard control work and rehabilitation, renovation, remodeling, and maintenance often generate a considerable amount of leaded-dust. Studies have indicated that cleaning of leaded-dust can be accomplished

only with care and skill (HUD, 1991; NCHH, 2004). Therefore, HUD requires clearance dust sampling to determine if the work area has been cleaned adequately to meet the EPA dust clearance standard(s).

The report of the clearance examination documents the findings. The clearance examination protects *all* parties involved – the job contractor or other workers, the owner, insurance companies, and the residents. Clearance provides the contractor and the owner with an objective determination that the job site was left free of lead-based paint hazards. Clearance assures that children will be safe from lead hazards in the area being cleared as long as the work remains intact and there are not exterior sources contaminating the area. To keep the property lead-safe, the owner should follow lead-safe maintenance practices if it is known or suspected that lead-based paint remains on the property (see Chapter 6). Also, it is recommended that pre-1960 multi-family rental properties be reevaluated by a risk assessor at 2-year intervals following initial interim controls (see Chapter 5, Section VII), and may be required for housing receiving federal assistance covered HUD Lead Safe Housing Rule (see Appendix 6 for details).

A voluntary consensus standard, ASTM E2271, Standard Practice for Clearance Examinations Following Lead Hazard Reduction Activities in Dwellings, and in Other Child Occupied Facilities, may also be used for determining whether a clearance area passes or fails a clearance examination. (<http://www.astm.org/Standards/E2271.htm>) (The version of the standard as of the publication of these *Guidelines* is ASTM E2271 – 05a(2012)e1; the ASTM website should be checked to see if a subsequent edition or standard is current at the time the ASTM standard is being considered for use as part of the clearance process for a job.)

### **C. De Minimis Area – Minimal Area of Paint Disturbance when Clearance Is Not Required**

HUD regulations do not require clearance if the total amount of paint disturbed by non-abatement work is no more than a small or minimal amount. This amount is called a *de minimis* area or *de minimis* amount. Specifically, the *de minimis* areas are areas up to:

- (1) 20 square feet on exterior surfaces,
- (2) 2 square feet in any one interior room or space, or
- (3) 10 percent of the total surface area on an interior or exterior type of component with a small surface area (such as windowsills, baseboards, and trim).

Note that the HUD *de minimis* thresholds are different from the EPA's *minor repair and maintenance activities* thresholds (40 CFR 745.83) under its RRP Rule for work that that disrupts:

- (1) 6 square feet or less of painted surface per room for interior activities; or
- (2) 20 square feet or less of painted surface for exterior activities;

provided that none of the work practices prohibited or restricted by 40 CFR 745.85(a)(3) were used and where the work does not involve window replacement or demolition of painted surface areas (see Appendix 6 for details).

## II. Qualifications for Clearance Examiners

### A. Regulatory Qualifications

Clearance examinations are regulated by EPA and HUD, as well as by States and Tribes with EPA-authorized lead certification programs for inspection, risk assessment, or dust sampling technicians.

EPA regulations recognize two disciplines as being qualified to perform clearance examinations following abatement of lead-based paint hazards: certified risk assessors, and certified lead-based paint inspectors. Some EPA-authorized States and Tribes, however, permit only certified risk assessors to perform clearance examinations.

In addition to risk assessors and lead-based paint inspectors, HUD regulations (at 24 CFR 35.1340(b)(1)) and EPA Renovation, Repair, and Painting (RRP) regulations (at 40 CFR 745.90(a)(1)) recognize a third category, certified dust sampling technicians (originally called "clearance technicians"). These technicians are qualified to perform many non-abatement clearances, because their training does not cover random sampling, they may not conduct non-abatement clearances of multi-family properties in which clearance involves random sampling of dwelling units except under the circumstances and supervision described in the following paragraph. EPA does not allow dust clearance testing in lieu of post-renovation cleaning verification, except in limited circumstances. EPA recommends that any property owners who choose to have dust clearance testing performed after a renovation use a certified inspector, risk assessor, or dust sampling technician.

HUD regulations permit certified sampling technicians to perform clearances after non-abatement work if the clearance examination is approved and the report is signed by a certified risk assessor or lead-based paint inspector. Because sampling technicians do not have the training to randomly select dwelling units, common areas and/or exterior areas for sampling in multi-family properties, for multi-family properties where units are to be randomly selected under either the HUD regulations or the EPA's RRP Rule, the certified risk assessor or lead-based paint inspector must perform the random selection and instruct the sampling technician to conduct clearance work where selected. Also, sampling technicians do not have the training to determine that specified hazard control work has been completed (see Section VIII, below, for an explanation of this optional activity).

### B. Conflicts of Interest

For clearance to achieve its purpose there must be integrity in the process, in appearance as well as in fact. People performing hazard control, rehabilitation, or maintenance work and the cleanup following such work must not know where clearance dust samples will be taken. To achieve this goal, clearance examiners should be as independent as possible of those performing the work. The clearance examiner's only concern should be that compliance with clearance standards has been achieved.

It is best practice for the owner (or the agency administering public assistance funding the work) to retain the clearance examiner, rather than having the contractor who performs the work do so. In addition, the clearance examiner should not be paid, employed, or otherwise compensated by the hazard-control or renovation contractor. The independence of the clearance examiner is generally required in projects covered by HUD's Lead Safe Housing Rule (24 CFR 35.1340(f)). It should be noted that, under EPA regulations pertaining to abatement and renovation, an abatement or renovation contractor may select and pay the clearance examiner.



Some owners of multiple dwelling units may wish to have work performed by their own trained crews, rather than contract for such services. In this case it is best practice that clearance be performed by an independent third party whose payment is not dependent on completion of the job within any particular time period. HUD regulations do permit property owners to use clearance examiners in their employ, however, provided the same in-house employees do not conduct both the work and its clearance examination. Ultimately, it is the professional integrity of those performing clearance that will determine whether the process succeeds. To minimize any perceived conflict of interest it is strongly recommended that the clearance examiner be completely independent from the person performing the lead-hazard control treatments (see above regarding HUD's Lead Safe Housing Rule).

This does not mean that job supervisors should not perform their own visual assessments of the quality of the cleaning job performed by their workers as a "pre-clearance" step. Owners, contractors, or public agencies may also find it useful to take their own pre-clearance dust samples for quick onsite analysis (using, for example, portable XRF, anodic stripping voltammetry (ASV), or potentiometric stripping analysis (PSA) technology) before calling in the clearance examiner. If the pre-clearance determination is that the area is not ready for the clearance examiner, the supervisor must order the work area to be recleaned. Such pre-clearance assessments and follow-up will make it more likely that clearance standards are met the first time around (see Section VI.A.3, below).

The clearance procedures contained in this chapter should always be included in the job specifications so that performance responsibilities are clear.

### III. Time Between Completion of Cleanup and Clearance

Clearance dust sampling should be performed no sooner than one hour after completion of the final cleanup to permit airborne leaded-dust to settle. Clearance dust sampling is for *settled* leaded-dust, not airborne leaded dust, because the main source of lead exposure for children is through contact with contaminated surfaces followed by ingestion through hand-to-mouth contact. While often performed for asbestos abatement projects, air sampling does not appear to be a useful tool for determining if clearance has been achieved in lead hazard control work. Because asbestos fibers are known to have low settling velocities (that is, they take a long time to settle out of the air), air sampling can be used to determine the effectiveness of the cleanup effort in asbestos abatement jobs. But because dust particles typically generated during lead hazard control jobs are larger, denser, more spherical, and heavier, settling time is much faster. A one-hour waiting time is recommended because the additional amount of leaded-dust that would settle onto floors after one hour has been empirically found to be much less than the clearance standard for floors ( $40 \mu\text{g}/\text{ft}^2$ ) or window sills ( $250 \mu\text{g}/\text{ft}^2$ ) (Choe, 2000).

Entry into the area should be prohibited, and openings from the clearance area should remain closed during the waiting period to keep turbulence and resuspension of particulate matter to a minimum, as well as minimize any potential for cross contamination or unauthorized entry.

## IV. The Clearance Area, and Sampling of Units, Rooms, or Areas

### A. Determining the Clearance Area and Schedule

A matter of critical importance in the design of a clearance examination is determining the area that must be examined (the clearance area). Clearance examiners should reach an understanding on this with their clients as early as possible. Misunderstanding can lead to costly disputes and delays. Clearance examiners must know in advance the scope of the clearance examination (e.g., the rooms, dwelling units, common areas and/or exterior areas to be cleared) in order to make sound sampling plans and reliable fee estimates. Contractors or other persons performing the work and the associated cleaning must understand in advance the clearance examination process (i.e., visual assessment followed by dust testing), but they must not be informed about the specific sampling locations, in order to avoid their biasing their cleanup activities, even if unintentionally.

Clients should be informed that dust samples will be taken on window troughs, as well as window sills and floors, as part of the clearance examination after interior work has been done. Otherwise contractors or maintenance staff may neglect to clean window troughs (see Section VI.C.3 and Figure 15.2, below, for a definition and illustration of window troughs).

It is also suggested that the clearance examiner discuss with the client any job-specific factors that may affect the schedule for the examination and the speed with which laboratory results are needed. Possible factors include the need for reoccupancy of the clearance area or for contractors to do additional work (see Section VI.E, below, for a discussion of laboratory turnaround).

#### 1. Interior Clearance Areas

For clearance following interior work, these *Guidelines* define the following three clearance categories, each with a different clearance area (see Section VI.C.1 and Table 15.1, below):

**Category 1.** No containment of dust in the rooms or common areas in which work is conducted. Because other rooms or common areas where no work was done may be contaminated, clearance must cover/represent the entire space (e.g., work area and all the rooms in the dwelling unit and/or the common areas that are associated with the work area).

**Category 2.** Dust has been contained to the work area. Clearance covers at least the area within the containment, plus the floor outside the containment area (to make sure contamination has not spread), plus passageways used by workers walking to and from the work area. (Alternatively, clearance Category 1 may be used.) To determine a Category 2 clearance area, the clearance examiner must know exactly where the containment was located and what passageways were used by workers.

**Category 3.** "Worksite only" clearance. This category of clearance is acceptable following a small amount of contained interior work not intended to be abatement that takes a short time to complete. In these cases, the clearance area may be limited to the rooms in which work has been done. (Alternatively, clearance Categories 1 or 2 may be used.)

The critical factors in determining the clearance area are: (1) the location of the work (i.e., what rooms, if interior, and what surfaces, if exterior); (2) the type and location of dust containment during the work; (3) whether the work was a low-dust or high-dust job; and (4) the duration of the job. The best way to obtain information on these factors is to observe the work in progress.

If the clearance examiner cannot observe the work in progress, he or she should request the information from the client and should determine the clearance area based on the information received. Record the information that forms the basis for the clearance area determination and include it in the final report (see Section IV.A.3, below).

**Dust containment.** EPA regulations on clearance following abatement (at 40 CFR 745.227(e)(8)) make the clearance area dependent on dust containment. Similarly, HUD regulations on clearance following activities other than abatement (at 24 CFR 35.1340(b)(2)) incorporate the clearance steps set forth in the EPA abatement regulation. For projects covered by the EPA's RRP Rule but not HUD's Lead Safe Housing Rule or a State or local regulation, if clearance is performed after the work as an alternative to cleaning verification, the clearance must be of at least the work area.

For interior work that may create high dust levels, containment generally includes such steps as: temporarily turning off heating, ventilating, and air-conditioning (HVAC) systems; sealing vents; and installing primitive airlocks with protective sheeting over doors to rooms in which work is being done; and covering the floors of work areas and passageways used by workers with disposable, impermeable protective sheeting. The use of primitive airlocks over work-area doors and the temporary elimination of HVAC airflow are the key methods for containing dust spread to the work area. (See Chapter 8 for a detailed discussion of containment methods as a part of worksite preparation.)

For interior work that will not create high dust levels, containment may be as little as laying protective sheeting on the floor where the surfaces will be disturbed.

Although clearance of rooms and spaces outside the containment area may not be required (except for the floor just outside the containment), complete clearance of all rooms in a dwelling unit and/or other associated spaces provides assurance that all living areas are free of lead-based paint hazards. Therefore, owners and lead hazard control contractors should carefully consider the benefits of cleaning and clearing areas outside the containment relative to the additional cost, which is often marginal.



**FIGURE 15.1** Windows sealed to prevent migration of dust outside.

## 2. Clearance Area Following Exterior Work

**Category 4.** Exterior areas must be cleared following work that has disturbed or may have disturbed exterior lead-based paint. Interior clearance is not necessary following exterior work if the only work being done is on the outside and if there is dust containment due to a tightly closed opening between exterior and interior spaces (e.g. window and/or door). In this type of containment, windows, doors, vents, and other building openings near the work area are sealed or tightly closed to prevent migration of dust from the outside to the inside during the work (see Figure 15.1). If building openings near the work area are not sealed or tightly closed, clearance must be conducted in interior spaces that may have been affected. Exterior clearance is not explicitly required by EPA and HUD regulations if the only work being done is on the inside of the building. However, in such cases, exterior contamination could occur if material is thrown out of windows or unwrapped waste is laid on the ground. Therefore the clearance examiner should perform a visual assessment of the grounds near the building(s) and ask the client to remove any paint chips and other paint-related debris that are found.

Exterior clearance following exterior paint work consists of a visual assessment for visible surface dust, debris and residue, only. It is not necessary to sample soil or exterior dust unless the owner or contractor wishes to have additional assurance of no remaining hazards (see Section VII, below). The visual assessment should cover exterior painted surfaces (to identify deteriorated paint) and ground areas, vegetation and horizontal building surfaces (e.g., exterior window sills, porch floors and railings) on which dust and debris may have fallen as a result of the work. If a child under age 6 uses a porch, balcony, deck, or similar space as a play area, inspect the space thoroughly if it is near the surfaces on which work was done to make sure it is free of visible dust and debris (see Figure 15.2). In deciding the area of the exterior visual assessment, the clearance examiner should take into account the nature, extent, location, and duration of the work and the design of the containment used to limit the spread of dust and paint chips. Generally, 10 to 20 feet is an adequate distance out from the sides of the building where work was done, depending on the characteristics of work.



**FIGURE 15.2** Visible paint chips and debris in the soil.

Under the standard HUD-EPA clearance procedure, the clearance examiner is not required to determine whether abatement or interim controls of soil-lead hazards have been performed satisfactorily and as specified. Therefore it is not necessary to conduct a visual assessment to identify bare soil that may have been untreated or to take soil samples. However, soil samples may be collected as an option (see Section VII, below).

### 3. Information for Clearance Area Determination

The clearance examiner should record information about the nature of the work in writing, whether in a narrative, a list, or on a floor plan.

- ◆ Record the source of the information (e.g., the client, the contractor, or from direct on-site observation of the work in progress).
- ◆ Record the clearance area agreed to with the client. If the agreed-upon clearance area differs from the clearance examiner's recommendation, include a written explanation of the basis for the recommendation.
- ◆ Include information about the characteristics of the work and the agreed-upon clearance area in the clearance examiner's report.

If the clearance examiner cannot obtain sufficient information on which to select Category 2 or 3 for interior clearance, the appropriate clearance category is Category 1.

## B. Sampling of Rooms, Units or Areas

Note that, for the purposes of clearance sampling, hallways, stairways, entry rooms/lobbies and other significant definable spaces are considered “rooms” as well as spaces normally considered as rooms, such as bedrooms, bathrooms, living rooms, kitchens, dining rooms, family rooms. Similarly, for clearance sampling purposes, a hallway, lobby or other space within a multi-family building is considered a “unit” or a “room,” as applicable.

### 1. Sampling Rooms within a Unit

When conducting clearance in a single-family dwelling unit, the visual assessment should be conducted in all rooms and exterior work areas within the clearance area, unless the clearance is of the worksite only (Category 3), but if the clearance area contains more than four rooms it is not necessary to collect dust samples in every room or space.

For Category 1 clearance, if the work areas were not contained, all rooms in the unit must be sampled or represented by sampling. EPA and HUD regulations on clearance require that dust samples be collected in four selected rooms in the work area (or all of the work area rooms, if fewer than four), and allow additional rooms to be sampled. The rooms selected for dust sampling are intended to be those in which young children are most likely to be exposed to dust-lead hazards. These should include, as a higher priority, the rooms in which the work was done and, as a lower priority, those rooms in which the young children sleep and/or play. (See Section VI.C.2, below.)

For Category 2 clearance, in which dust has been contained to the work area, the sampling locations are the same as for single-surface sampling Category 1, above, plus one floor sample outside of, and within 10 feet of, each containment area, and one floor sample along each passageway used by workers walking to and from the work area.

For Category 3, worksite-only clearance, the clearance area includes at least the rooms in which work was done. If the work was done in one room, the room selection is the same as for Category 1, above. If the worksite-only clearance area contains more than one room, see Section VI.C.2, especially Table 15.1, for information on room selection and sampling locations.

If there are no dust-lead hazards in the selected rooms, it is assumed that there are no such hazards in the other, unsampled, rooms. If any of the selected rooms do have dust-lead hazards, it is assumed that the other, unsampled, rooms also have them. People performing hazard control, rehabilitation, maintenance, and associated cleanup work must *not* know which rooms will be sampled for dust. Section VI.C.2, below, provides detailed information on selecting rooms for dust sampling. Section IX, below, provides guidance on interpreting dust sampling results and when recleaning and resampling are needed.

Clearance examiners and their clients may, if they wish, choose to collect dust samples in more than four rooms. In addition, state, tribal and/or local requirements may require more rooms to be tested. Some clearance examiners prefer to sample in *all* rooms in which high-dust paint-disturbing work is done. This approach has higher initial costs for the clearance examiner's time and laboratory analysis than does sampling in only four rooms, but it may save time and money in the long run because the greater amount of information allows a more focused and less costly recleaning and resampling effort if dust-lead levels exceed applicable standards.

## 2. Sampling Units within a Multi-family Property

If the clearance area encompasses many dwelling units in a large multi-family building or complex of similar buildings, random sampling of dwelling units, common areas and building exteriors is an option for both the visual assessment and dust sampling under the following conditions:

- ◆ For properties built during the period 1960-1977 (inclusive), random sampling of units is acceptable if the area to be cleared includes more than 10 dwelling units that have a common construction and painting history.
- ◆ For properties built before 1960, random unit sampling is acceptable if the area to be cleared includes more than 20 dwelling units that have a common construction and painting history.

This guidance applies most clearly to a large multi-family building, but it may also be applied to a group of single-family or a group of multi-family properties that are all of similar construction, were built at approximately the same time (i.e., within 2 or 3 years of each other), and have a similar painting history. If the number of units to be cleared is less than the applicable number indicated above (i.e., fewer than 11 or 21, depending on year of construction), all units must be sampled, because sampling fewer than all units would not be statistically reliable. Regardless of whether units and common areas are sampled, sampling of rooms within dwelling units should follow the guidance provided in Section IV.B.1, above, and in Section VI.C.2, below.

If the number of dwelling units in the clearance area qualifies for the unit sampling option (i.e., more than 10 dwelling units built between 1960 and 1977 (inclusive) or more than 20 units built before 1960), the visual assessment and the clearance dust sampling can be performed in randomly selected dwelling units, common areas and exterior surfaces. (The same approach is used for clearance of multiple common areas or exterior areas.) The random sampling can be performed for a portion of the housing development or for all of it. In either case the randomly selected units and common areas represent a specified group of housing units and common areas. The contractor must not know in advance which units and areas will be sampled, as this could bias the results, even if unconsciously. It is necessary to choose an adequate number of randomly selected units and common areas based on Table 7.3 of Chapter 7 and instructions associated with that table. Significant cost savings could be realized with such a sampling plan.

However, the implications of random clearance sampling should be understood fully before it is used. First, if the random sampling shows that levels of leaded dust are too high, it will be necessary to re-clean not only the affected rooms or components in the selected dwelling unit or units, but also in all the other units that the randomly selected units were meant to represent. Alternatively, all the unsampled units could be sampled individually to determine which need recleaning. The costs of repeated sampling should be compared with the costs of repeated cleaning. Regardless of whether all the represented units are sampled or recleaned, a further delay in permitting residents back into the area is possible when using random clearance sampling. Second, there has been a significant failure rate in attaining compliance with clearance dust standards. In the "Evaluation of the HUD Lead Hazard Control Grant Program" using the 1995 EPA interim guidance standards (see 60 FR 47248, September 11, 1995), with 2682 dwellings going through clearance, the failure rates at initial clearance were 20 percent for floors at 100  $\mu\text{g}/\text{ft}^2$ ; 6 percent for interior windowsills at 500  $\mu\text{g}/\text{ft}^2$ ; and 7 percent for window troughs at 800  $\mu\text{g}/\text{ft}^2$  (NCHH, 2004). In the HUD Abatement Demonstration Project using the earlier interim standards, failure rates on the initial wipe tests were 19 percent for floors at 200  $\mu\text{g}/\text{ft}^2$ ; 14 percent

for windowsills at 500 µg/ft<sup>2</sup>; and 33 percent for window troughs at 800 µg/ft<sup>2</sup> (HUD, 1991). In one large abatement job for a public housing authority, 15 percent of the housing units failed the clearance tests and required recleaning (Jacobs, 1993a). All of these failure rates were based on standards considerably higher, i.e., less stringent, than current EPA standards. These failure rates can be partially attributed to variable contractor performance.

In spite of all these caveats, there is one special situation that may lend itself well to random clearance sampling. A large *vacant* apartment building or housing development that will not be immediately reoccupied following the work could conceivably be randomly sampled at the end of the project and, if necessary, completely recleaned. Alternatively, all units could be sampled to determine which ones require recleaning.

Whether random clearance sampling or unit-by-unit clearance sampling is performed, repeated clearance sampling should *always* be performed in all units that required recleaning. In short, most cases of lead hazard control will require that clearance dust sampling be conducted in every unit treated. The basic exception is if less than *de minimis* amounts of painted surfaces are disturbed.

## V. Visual Assessment

The visual assessment that is part of the standard EPA-HUD clearance procedure has two fundamental purposes: (1) to identify any remaining deteriorated paint that is or may be lead-based paint; and (2) to identify visible dust, paint chips; or paint-related debris. The clearance examiner should inspect painted surfaces and horizontal surfaces near such surfaces in both interior and exterior locations. Any deteriorated paint that is or may be lead-based must be repaired or stabilized and any visible dust, paint chips, or other paint-related debris must be removed before dust sampling can take place. A form for visual assessments can be found at the end of this chapter (see Form 15.1).

Determining that the lead hazard control work was actually performed as specified is an important initial step. This may be done by the owner, the owner's agent, or (except for work covered by the Lead Safe Housing Rule) the certified contractor/supervisor. This is usually the responsibility of the contractor and the owner, but the clearance examiner may be asked to make such a finding, such as through the clearance examiner's contract or work order. If so, the examiner must be informed in detail of the scope of the work before the work begins in order to be on the job site while the work is being performed. See Section VIII, below, for further guidance.

For a dwelling unit, the visual assessment of interior spaces and exterior surfaces should be exhaustive, covering the entire clearance area, before any sampling of rooms or other spaces or exterior surfaces is considered. If dwelling units and common areas are sampled in a multi-family property, however, the visual assessment need cover only the sampled units and common areas, but may include more or all units and areas.

### A. Visual Assessment for Deteriorated Paint

The clearance examiner should identify all deteriorated paint in the clearance area, whether interior, exterior, or both. Deteriorated paint is defined by EPA as any interior or exterior paint or other coating that is peeling, chipping, chalking or cracking, or any paint or coating located on an interior or exterior surface or fixture that is otherwise damaged or separated from the substrate (40 CFR

745.63). Nail holes and hairline cracks are not considered deteriorated paint. Paint that is separated from other layers of paint or from the substrate may appear to be loose, peeling, chipping, flaking, bubbling, blistering, alligatoring, or seriously cracking. See Section II.D.3 of Chapter 5 for an illustrated discussion of various forms of paint deterioration.

EPA and HUD regulations include chalking as a form of paint deterioration. Therefore, clearance examiners must identify chalking paint. Chalking paint (usually found only on exterior paints) has been of concern because chalking may contaminate the ground and building surfaces below if the layer of paint that is chalking is lead-based. Chalking is usually manifested by discoloration of the wall or ground below the painted surface and by a chalk-like substance that comes off on the hand after lightly rubbing the paint surface.

All deteriorated paint should be recorded on a form, such as Form 15.1, the Visual Assessment – Lead Hazard Clearance Examination form (at the end of this chapter). Results should be written down as the assessment proceeds, and the report should be precise about amounts and locations. If deteriorated paint is found, the clearance examiner should ask the client why the paint is deteriorated. If the deteriorated paint is known not to be lead-based, the examiner should record that information, identify the document that is the basis for the determination, and proceed. If the client states that he or she is not required to repair that paint, the examiner may record that and proceed. It is not expected that the clearance examiner should be a compliance official, but the clearance record should show the client's explanations, if any, for the existence of deteriorated paint.

One example of a possible explanation for the existence of deteriorated paint might be that the property has undergone rehabilitation with Federal assistance of \$5,000 or less per dwelling unit. For such properties, HUD regulations (at 24 CFR 35.930(b)) do not require stabilization of deteriorated paint if that painted surface is not being addressed as part of the rehabilitation. Thus, for example, if the rehabilitation work is only window repair or replacement, deteriorated paint may remain on the walls near the windows – walls that are in the clearance area. A similar situation might occur in an unregulated renovation job of just part of a dwelling unit.

If the client does not know whether the deteriorated paint is or is not lead-based and has no other reasonable explanation for the presence of deteriorated paint, the paint surface should be made intact and the work area cleaned before completion of clearance. If the clearance area is an interior space, the paint must be repaired and the work area cleaned before collection of clearance dust samples because the paint repair might contaminate the area. Therefore, if there is any unexplained deteriorated paint, the clearance examiner should provide the client with a copy of the visual assessment form so it is clear exactly what paint should be repaired.

Tracking leaded dust from one area to another is a big problem on lead hazard control jobs. Leaded dust can be tracked on shoes from the work area to non-work areas or to the outside. Sometimes leaded dust from the outside soil is tracked into the work area. Leaded dust from a porch or non-work area can be tracked into a cleaned area. When this happens, the whole area must be cleaned. Accordingly, the clearance examiner and others visiting the worksite are advised to wear **disposable booties to minimize any cross contamination from one work area to another, or dust migration from outside the worksite into the worksite.**



**B. Visual Assessment for Settled Dust and Debris**

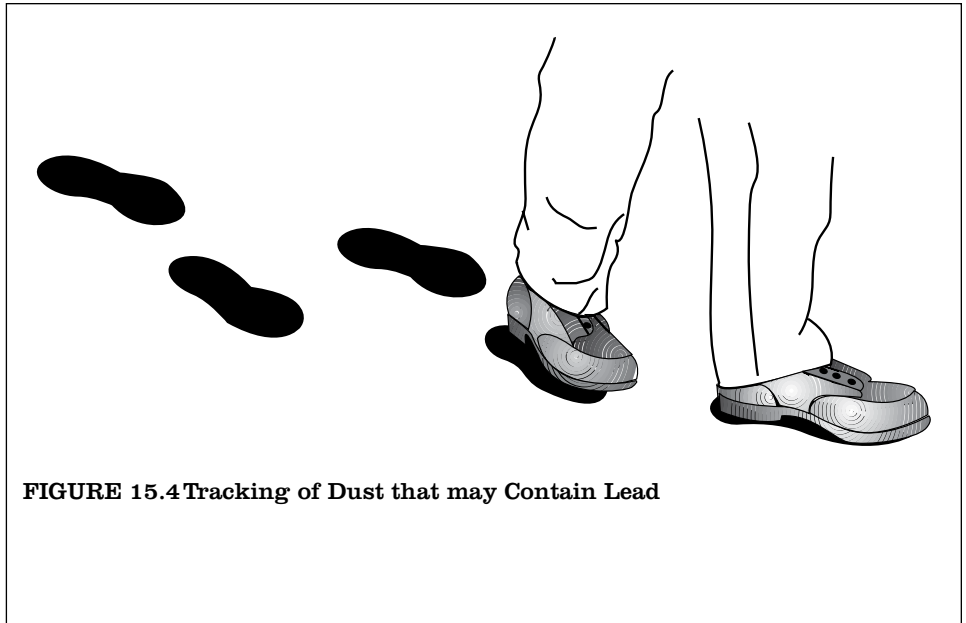
**1. Interior**

For an interior clearance area, there should be no evidence of settled dust or paint chips or paint-related debris following a cleanup effort. If dust, paint chips, or paint-related debris are observed, the clearance examiner should record his or her observations on a form, such as Form 15.1, and provide the form to the client. Remember to observe window troughs, as well as window sills and floors. These surfaces should all be clean because dust samples are collected from them. The client should have the relevant areas recleaned *before* clearance dust samples are collected to avoid conducting dust sampling twice. Visible settled dust provides sufficient evidence that cleanup was not adequate (see Figures 15.3 and 15.4). If recleaning is necessary, the clearance examiner should provide the client with a copy of the visual assessment form so it is clear exactly what areas should be recleaned.

There are conflicting reports regarding the use of the so-called “white-glove test,” named for the concept of running one’s hand in a white cotton glove along a surface to see how dusty or dirty it is, as part of the visual assessment. Some housing agencies have indicated that they find this to be a useful preliminary examination tool, while others indicate that this test almost always shows some discoloration of the glove, even if surfaces have been cleaned well. Until it has been demonstrated to effectively predict leaded dust levels, use of the “white glove test” is left to the discretion of the examiner and is not recommended by HUD. The “white glove test” is *not* a substitute for laboratory analysis of dust samples. Remember that the EPA has a cleaning verification method for projects covered by its RRP Rule (see Appendix 6) that are not covered by HUD’s Lead Safe Housing Rule.



**FIGURE 15.3 Visible Dust Indicates Recleaning is Needed**



**FIGURE 15.4 Tracking of Dust that may Contain Lead**

## 2. Exterior

For an exterior clearance area, the clearance examiner, in addition to looking for deteriorated paint, should visually examine the ground, vegetation, and horizontal building surfaces (including exterior window sills) near the exterior work surfaces to determine that paint chips and other paint-related debris have been removed. Also, it is especially important that outdoor, hard-surfaced living areas such as porches, decks, and balconies that are within the clearance area and are frequented by children of less than six years of age be free of visible dust and debris. (See Section IV.A.2, above, for guidance on determining the area to be included in exterior clearance.) A visual examination of the surface for surface dust, debris and residue is usually adequate. It is not necessary to turn over or rake soil to look for paint chips unless the clearance examiner has reason to believe workers or the client may have covered up paint chips or other lead-contaminated debris with loose soil.

If exterior cleanup is necessary, the clearance examiner should provide the client with a visual assessment form explaining exactly what areas and what material must be cleaned up. Clearance has not been achieved until such cleanup has been satisfactorily completed. However, it is usually not necessary to postpone interior dust testing until exterior cleanup has been completed, provided building openings are closed during the exterior cleanup to avoid possible contamination of interior spaces. The clearance examiner should tell the client it is necessary to close building openings within 10 to 20 feet of the exterior cleanup.

### C. Completion of the Visual Assessment Form

The Form 15.1 for visual assessments should be completed, signed, and dated. If no unexplained deteriorated paint or visible dust, paint chips, or paint-related debris are observed, the clearance examiner can proceed to dust sampling and analysis. If, on the other hand, further paint treatment or cleanup is required, the examiner should provide the client with such observations on a dated and signed form; and it will be necessary for the clearance examiner to return after the repair and cleanup is done, conduct another visual assessment, and complete, sign, and date a second visual assessment form to document the presence or absence of unexplained deteriorated paint. Dust sampling should not be performed until the examiner observes that the paint repair and cleanup has been satisfactorily done.

## VI. Clearance Dust Sampling

A visual assessment alone is not adequate for determining if a residence is safe for occupancy, because small dust particles are not visible to the naked eye. A person with normal eyesight cannot detect individual dust particles smaller than 50  $\mu\text{m}$  in diameter (Olishifski, 1983). Data indicate that a significant percentage of the dust generated during lead hazard control work is smaller than 50  $\mu\text{m}$  (Mamane, 1994; NIOSH 1993b). Because these smaller dust particles are associated with an increased risk of lead poisoning, clearance dust testing is required to determine quantitatively if a leaded dust hazard remains following lead hazard control work. The dust testing involves two steps: sampling the dust, and analyzing the dust for lead.

### A. Sampling Methods

#### 1. Wipe Sampling

Dust samples must be collected using wet wipes. The recommended protocol for sample collection is either Appendix 13.1 of these *Guidelines*; ASTM Standard Practice E 1728,

“Standard Practice for Field Collection of Settled Dust Samples Using Wipe Sampling Methods for Lead Determination by Atomic Spectrometry Techniques”; or the EPA report, “Residential Sampling for Lead: Protocols for Dust and Soil Sampling,” March 1995 (EPA, 1995a).

Neither EPA nor HUD currently recognizes a standard for collecting and evaluating vacuum samples of dust as a part of a lead-based paint hazard risk assessment or clearance examination. Wipe sampling yields a measure of dust-lead loading (in micrograms of lead per square foot or square meter), whereas vacuum sampling can provide a measure of the concentration of lead in the dust (in parts per million or micrograms per gram) as well as loading. Wipe sampling, however, is the required method of dust collection because it is simple, inexpensive, and has been used successfully for a number of years. Research has indicated that wipe sampling results correlate well with blood-lead levels in children (Lanphear, 1994; Farfel, 1992). The wipe sampling protocols in Appendix 13.1 and in ASTM E 1728 are equivalent to the method used in the Lanphear study.

Clearance wipe samples must be analyzed for lead by a laboratory recognized by the EPA under the National Lead Laboratory Accreditation Program (NLLAP) for analysis of lead in dust with one exception. The exception is for analyzing samples collected where States or Tribes operate an EPA-authorized lead-based paint inspection certification program that has paint testing requirements different from the EPA requirements, in which case the State or Tribal requirements must be followed. NLLAP-recognized laboratories are required to use the same analytical methods for analyzing the sample that they used to obtain NLLAP recognition.

- ◆ EPA established NLLAP to provide the public with laboratories that have a demonstrated capability for analyzing lead in paint-chip, dust, and/or soil samples at the levels of concern stated in these *Guidelines*. NLLAP monitors the analytical proficiency, management and quality control procedures of each laboratory participating in the program. NLLAP does not specify or recommend analytical methods.
- ◆ See Chapter VII, Section VI.I for further information of NLLAP procedures.
- ◆ Field-portable XRF analysis has been used for measurement of lead in dust (Sterling, 2000; Harper, 2002) or soil (EPA, 2004; Binstock, 2009) with varying degrees of success; these methods do involve collecting a sample of the medium, so samples collected from target housing or pre-1978 child-occupied facilities, must be analyzed by a laboratory recognized by NLLAP for analysis of lead in the particular medium. The laboratory may be a mobile laboratory, field sampling and measurement organization, or a fixed-site laboratory, as discussed in Section II.E.6, above.

Information on this program, including an up-to-date list of fixed-site and mobile laboratories recognized by NLLAP, can be obtained on the EPA web site at <http://www.epa.gov/lead/pubs/nllap.htm>, or by calling the National Lead Information Center at 800-424-LEAD. (Hearing- or speech-challenged individuals may access this number through TTY by calling the toll-free Federal Relay Service at 800-877-8339.)

## 2. Composite Sampling

Under EPA and HUD regulations, dust wipe samples may be either single surface or composite. Each single-surface sample is a separate wipe from a specific location. It is placed in a separate container and is analyzed separately. A composite sample can contain up to four wipes from four

different locations, but the locations must be from the same type of component, e.g., hard floors from four different rooms, or interior window sills from four different rooms. Wipe samples are composited in the field, not in the laboratory, by inserting up to four wipes from four surfaces into the same container. The laboratory analyzes all four wipes as one sample using a modified analytical procedure. The individual wipes in each composite are called “subsamples.”

Acceptable recovery rates (i.e., within the range of 80 to 120 percent of the “true” value) have been found when no more than four wipes are analyzed as a single sample (EPA, 2001b; Jacobs, 1993c). Testing reported in 2011 among multiple NLLAP-recognized laboratories identified two sample preparation methods for four-wipe composite dust wipe samples that are capable of meeting NLLAP requirements for accuracy (recovery) and precision. (White, 2011)

In 2011, the American Industrial Hygiene Association Laboratory Accreditation Programs, LLC revised the “Specific Additional Requirements” in Policy Module 2C for its Environmental Lead Laboratory Accreditation Program (ELLAP). Laboratories accredited by ELLAP for lead analysis of dust wipes are recognized by NLLAP (and similarly for lead in paint chips and soil). As of the publication of these *Guidelines*, the ELLAP policy covers accreditation (and, hence NLLAP recognition) of laboratories analyzing composited wipes, for which “all requirements for wipes listed in Policy Module 2C apply, but with the additional requirement that each batch of samples and associated QC samples shall contain the same number of wipes, i.e. composited samples that contain two wipes are to be analyzed in a batch containing QC samples to which two wipes were added as matrix.” (ELLAP policy 2C.4.12, which is linked from <http://www.aihaaccreditedlabs.org/PolicyModules/Pages/2011%20Policy%20Modules.aspx>. Additional composite-specific requirements are found in the ELLAP application form linked from <http://www.aihaaccreditedlabs.org/programfees-guidelines-forms/Pages/default.aspx>.)

While these *Guidelines* recognize the use of composite sampling of dust, they generally do not encourage it for the following reasons:

- ◆ Most laboratories that are recognized by EPA for lead analysis (i.e., NLLAP-recognized laboratories) discourage clients from submitting composite dust wipe samples.
- ◆ The lack of an inter-laboratory proficiency program for analysis of composited samples may make the data less convincing in case of a dispute.
- ◆ Compositing offers only limited amount of information. If one composite sample has dust lead levels exceeding applicable standards, all components represented by that composite sample will have to be recleaned, or each room will need to be resampled individually. In contrast, if one of the single-surface samples fails, recleaning is necessary only in the room in which the failed sample was taken plus all unsampled rooms (or each unsampled room could be sampled).
- ◆ The decision criterion for evaluating the results of composite clearance samples is more stringent than that for single-surface samples. In accordance with EPA regulations, the EPA standard for dust-lead hazards must be divided by one-half of the number of subsamples to determine the standard against which the results of a composite clearance sample must be evaluated (40 CFR 745.227(e)(8)(vii)). Thus, with the EPA dust-lead hazard level for floors being 40 µg/sq. ft. as of the publication of these *Guidelines*, the standard for a composite floor sample with four subsamples is 20 µg/sq. ft. Such a low composite standard increases the likelihood of failing clearance.

- ◆ Laboratories often separate composite samples and analyze each wipe separately because their equipment and sample preparation procedures are set up for individual wipes, rather than analyzing the composited samples together. As a result, the cost of the composite analysis may well be at least as high as for analyzing the wipes submitted as separate samples.
- ◆ The cost of single-surface sampling has declined since the 1990s, so the money spent in single-surface samples is more than made up by having good data.

Research has shown the benefit of composite dust wipe testing for the case of high-dust jobs involving lead-based paint. (Cox, 2011) For such jobs, lead in dust next to the walls was three times more difficult to clean than lead in dust nearer the center of the rooms; clearance using single-wipe samples collected next to the walls was much more likely to fail; and “four-wipe composite sampling within each room (two randomly selected from the perimeter and two randomly selected from the interior) provided a very reliable method for detecting clearance failure (99% or greater) versus a randomly selected single wipe sample per room (50% or less).”

The following recommendations should be observed if composite dust wipe sampling is conducted:

- ◆ Wipes used for composite dust wipe samples should meet the requirements of ASTM Standard E 1792.
- ◆ Whenever composite sampling is contemplated, clearance examiners should check with the analytical laboratory to determine whether it analyzes composite samples and, if so, whether special quality assurance practices are needed. For example, clearance examiners should confirm whether the laboratory is able to analyze composite samples with wipes that meet ASTM Standard E 1792 (Battelle, 2002).
- ◆ A single composite sample should not contain subsamples from different component types, e.g., floors and interior window sills, in the same composite sample.
- ◆ When composite samples are being taken, separate composite samples are required for each dwelling unit sampled.
- ◆ The surface areas of subsamples within a composite sample must be very similar in order to avoid oversampling a room.
- ◆ All the areas to be wiped for a composite sample should be identified before starting to perform the wiping for the subsamples. After preparing the container for a composite sample, put on the glove(s) and complete the wiping procedures for all subsamples.
- ◆ A new wipe should always be used for each spot sampled. Carefully insert each wipe subsample into the same container.
- ◆ No more than four different wipes should be inserted into a single container for a composite sample. As noted above, acceptable recovery rates (i.e., within the range of 80 to 120 percent of the “true” value) have been found when no more than four wipes are analyzed as a single sample (EPA, 2001b; Jacobs, 1993c).

- ◆ Composite samples should not be taken from rooms that have dramatically different conditions. For example, if the clearance examiner has some reason to believe that cleanup was not performed adequately in a room, a single-surface sample should be collected there. In some cases both single-surface samples and composite samples may be needed for the same component.

### 3. On-site Dust Testing

EPA and HUD allow on-site analysis of dust samples as long as the laboratory analyzing the samples is recognized for on-site ("mobile") analysis of lead in dust by EPA under the National Lead Laboratory Accreditation Program (NLLAP). Methods exist for reliably screening wipe samples on-site rather than in a fixed laboratory; note that this preliminary screening is not the same as clearance, but may be used by the owner, contractor or clearance examiner as part of determining whether to proceed to clearance testing. These include portable X-ray fluorescence (XRF) analysis and anodic stripping voltammetry (ASV) (Ashley 2001; EPA, 2002b; Clark, 2002). These methods may provide testing results much more quickly than fixed laboratory analysis, and so they may save time and money, reduce relocation difficulties, facilitate cooperation by both landlords and tenants, and accelerate environmental investigations in cases of children with elevated blood-lead levels.

In States and Tribal lands where EPA is operating a lead certification program, wipe samples for a clearance examination must be analyzed by a laboratory recognized by EPA under the National Lead Laboratory Accreditation Program (NLLAP) for analysis of lead in dust. If, in these States, an EPA-recognized laboratory wishes to perform on-site analyses of dust wipe samples, it may do so. In States or Tribal lands where the State or tribe is operating an EPA-authorized lead program, the same requirements generally apply, although there may be some differences (EPA, 2002a). While EPA clearance regulations and program procedures apply only to abatement activities (and the option for clearance in projects covered by the RRP Rule), HUD regulations and many State regulations apply the same procedures to non-abatement activities. On-site analysis (just like fixed-site laboratory analysis) of dust for lead for clearance testing (or for risk assessment or lead hazard screening) of target housing may only be done by an NLLAP-recognized laboratory. Thus a certified risk assessor, lead-based paint inspector, or sampling technician who wishes to conduct on-site dust testing as part of a clearance examination must conduct the analysis as part of working for an NLLAP-recognized laboratory, whether as an employee or a subcontractor of the laboratory.

Any person who is trained and otherwise qualified (e.g., holding a state radiation license) to operate the XRF instrument, or use the ASV or PSA method may use these methods to conduct dust testing in a preliminary screening to determine whether the clearance area is clean and ready for the clearance examination. A person conducting a preliminary screen does not have to be a certified lead-based paint inspector, certified risk assessor, or a certified dust sampling technician. To conduct a clearance examination or a risk assessment, however, one must be certified. Owners and contractors may wish to use appropriately certified individuals to conduct such screening tests to minimize the likelihood of clearance failure. State regulations on the use of devices with radioactive elements must be observed.

## B. Clearance Dust Sampling and Sealant Application

Wipe samples should be collected after any application of a sealant on a rough, unfinished, horizontal surface, such as a floor or window sill, not before. In lead hazard control programs, and especially after paint removal, coating with a sealant is often one of the final measures completed. It is recommended for wood and concrete surfaces that are not coated with paint, varnish, polyurethane, or other coating. The purpose of sealing floors or sills is not to trap leaded-dust underneath the sealant, but to provide a surface that can be cleaned effectively by the resident. The type of surface determines the type of sealant. For example, wooden floors should either be painted with deck enamel or coated with polyurethane; concrete floors should be sealed with a concrete sealant; and tile floors should be sealed with appropriate wax or other coating. The lead-safe maintenance program should check the integrity of floor sealants at least yearly.

## C. Location and Number of Clearance Dust Samples

Table 15.1 presents the minimum number and location of clearance dust samples to be taken in various circumstances. The number and location of samples depend on several factors: whether dust containment was used, the number of rooms in the clearance area, whether composite or single-surface samples are collected, and whether the clearance protocol must be a standard HUD-EPA protocol or can be a special worksite-only protocol that may be acceptable in certain circumstances.

### 1. Clearance Categories

The four categories of clearance are shown in Table 15.1. Remember that clearance is not required following small work in which the amount of paint disturbed is less than the *de minimis* amounts defined in Section I.C, above.

**Clearance Category 1** in the Table 15.1 is the standard HUD-EPA dust sampling protocol for clearance after interior work that has not used dust containment between work areas and non-work areas. Dust containment generally includes temporarily turning off HVAC systems, sealing vents, and installing plastic sheeting over doors to rooms in which work is being done. See Chapter 8 for guidance on containment to minimize dust migration. Also, clearance examiners should use Clearance Category 1 if information on the location and design of containment is not available.

**Clearance Category 2** in Table 15.1 is the standard HUD-EPA dust sampling protocol for clearance after interior work that has used dust containment between work areas and non-work areas. Categories 1 and 2 constitute the recommended protocol for dust sampling in most clearance examinations. Categories 1 or 2 must be used if the work includes abatement of lead-based paint hazards, as defined and regulated by EPA and State or Tribal programs authorized by EPA. Categories 1 or 2 must also be used if the clearance is required by the HUD Lead Safe Housing Rule, except in certain cases in which worksite-only clearance is also permitted.

**Clearance Category 3** in Table 15.1 is the recommended dust sampling protocol for worksite-only clearance following a small amount of interior work that was of short duration, generated little dust, and was contained. The HUD Lead Safe Housing Rule allows this worksite-only clearance procedure in housing receiving up to \$5,000 per housing unit in Federal rehabilitation assistance and also in housing that is receiving certain other types of Federal assistance and is undergoing continuing lead-based paint maintenance. The EPA does not allow worksite-only

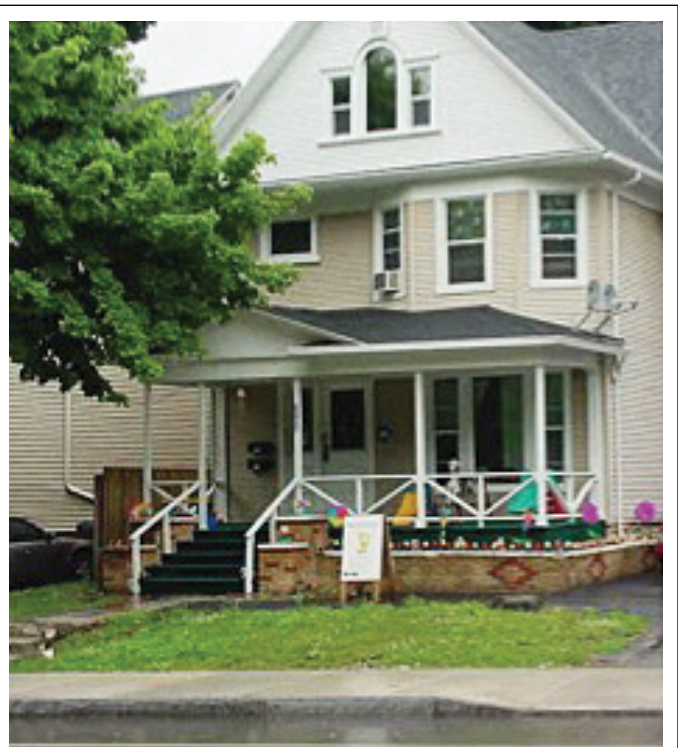
clearance after abatement work in States for which it operates the lead certification program. (See also sec. VI.C.5.) EPA does allow the option of clearance on work covered by the RRP Rule (40 CFR 745.85(c)); if there is no other requirement (such as from HUD's Lead Safe Housing Rule, or a State or tribal regulation) to clear the entire unit, worksite-only clearance is allowed.

**Clearance Category 4** in Table 15.1 pertains to exterior paint-disturbing work. Dust sampling of exterior locations is not required. Dust testing of exterior living areas, such as porches and balconies, is optional. There is no EPA dust-lead hazard standard for exterior surfaces. Dust sampling of interior rooms is necessary, however, if building openings near the work surfaces are not sealed or tightly closed during the work to preclude the migration of work-generated dust into interior spaces. The clearance examiner must exercise professional judgment in selecting rooms that may have been contaminated during the work.

Each of these clearance categories has different dust sampling protocols, depending on whether the wipe samples being taken are single-surface or composite.

The recommended number and location of dust samples is the same for dwelling units, common areas, and child-occupied facilities. A child-occupied facility is defined by EPA as "a building or portion of a building, constructed prior to 1978, visited regularly by the same child, 6 years of age or under, on at least two different days within any week (Sunday through Saturday period), provided that each day's visit lasts at least 3 hours and the combined weekly visit lasts at least 6 hours, and the combined annual visits last at least 60 hours (see Figure 15.5). Child-occupied facilities may include, but are not limited to, day-care centers, preschools and kindergarten classrooms" (40 CFR 745.223).

Once a clearance examiner has determined which clearance category(ies) apply to the job at hand, he or she then has the following decisions to make: (1) which rooms to sample; (2) which locations within rooms to sample; and (3) whether to use single-surface or composite samples. If the clearance examiner wishes to take samples above the minimum required, she or he must first ensure that the owner or owner's agent paying for the clearance examination agrees to the collection and analysis of the additional samples. These issues are discussed in the following paragraphs.



**FIGURE 15.5** Indications that children are present.



**Table 15.1 Minimum Number and Location of Dust Samples**

Clearance Category	Number and Location of Single-Surface Wipe Samples	Number and Location of Composite Wipe Samples*
<p><b>Category 1:</b> Standard HUD-EPA clearance protocol following interior work with no dust containment.</p>	<p>The clearance area is the entire dwelling unit, common area, or child-care facility. If the clearance area contains four or fewer rooms, all rooms must be sampled. If there are more than four rooms, select at least four rooms for sampling.</p> <p>If the unit, common area, or facility being cleared consists of two or more rooms, collect two samples from each room selected for sampling:</p> <ul style="list-style-type: none"> <li>◆ One from the floor.</li> <li>◆ One from an interior window sill or window trough, if present, alternating from sill to trough between rooms.</li> </ul> <p>If the unit, common area, or facility being cleared consists of only one room, collect three samples: an interior window sill (if present), a window trough (if present), and the floor.</p>	<p>The clearance area, the number of rooms to be sampled, and room selection are the SAME as for Category 1 single-surface sampling.</p> <p>If the unit, common area, or facility being cleared consists of two or more rooms, collect three subsamples from each room to be sampled:</p> <ul style="list-style-type: none"> <li>◆ One from the floor.</li> <li>◆ One from an interior window sill, if present.</li> <li>◆ One from a window trough, if present.</li> </ul> <p>If the unit, common area, or facility being cleared consists of only one room, sampling locations are the same as for Category 1 single-surface sampling locations; composite samples cannot be taken.</p>
<p><b>Category 2:</b> Standard HUD-EPA clearance protocol for interior work with dust containment.</p>	<p>The minimum clearance area includes the rooms in which work was done, the area outside each containment area, and each passageway used by workers walking to and from the work area.</p> <p>Sampling locations are the same as for single-surface sampling Category 1, plus:</p> <ul style="list-style-type: none"> <li>◆ One floor sample outside of, and within 10 feet of, each containment area.</li> <li>◆ One floor sample along each passageway used by workers walking to and from the work area.</li> </ul>	<p>The minimum clearance area is the SAME as for single-surface sampling Category 2 single-surface sampling;</p> <p>If work was done in more than one room, collect:</p> <ul style="list-style-type: none"> <li>◆ Three subsamples from each room to be sampled:</li> <li>◆ One from the floor.</li> <li>◆ One from an interior window sill, if present.</li> <li>◆ One from a window trough, if present.</li> <li>◆ One floor sample outside of, and within 10 feet of, each containment area.</li> </ul>

<p><b>Category 2:</b> Standard HUD-EPA clearance protocol for interior work with dust containment.</p>		<ul style="list-style-type: none"> <li>◆ One floor sample along each passageway used by workers walking to and from the work area.</li> </ul> <p>If work was done in only one room, all samples must be Category 2 single-surface samples; composite samples cannot be taken.</p>
<p><b>Category 3:</b> Worksite-only clearance for a small amount of interior work of short duration, with low dust generation and dust containment.</p>	<p>The minimum clearance area includes the rooms in which work was done. Room selection is the same as single-surface sampling Category 2.</p> <p>If the clearance area contains more than one room, collect three samples from each room to be sampled:</p> <ul style="list-style-type: none"> <li>◆ One from the floor within 5 feet of a work surface.</li> <li>◆ One from an interior window sill or window trough, if present, alternating between rooms.</li> <li>◆ One from the floor near the main doorway used by workers to access the room.</li> </ul> <p>If work was done in only one room, collect four samples: two from the floor (in the same locations as above), one from a sill (if present), and one from a trough (if present).</p>	<p>The minimum clearance area, the number of rooms to be sampled, and room selection are the SAME as for Category 3 single-surface sampling.</p> <p>If the clearance area contains more than one room, collect four subsamples from each room to be sampled:</p> <ul style="list-style-type: none"> <li>◆ One from the floor, within 5 feet of a work surface.</li> <li>◆ One from an interior window sill, if present.</li> <li>◆ One from a window trough, if present.</li> <li>◆ One from the floor near the main doorway used by workers to access the room.</li> </ul> <p>If work was done in only one room, all samples must be Category 3 single-surface samples.</p>
<p><b>Category 4:</b> Exterior paint-disturbing work.</p>	<p>Dust sampling is generally not required for exterior work if building openings near the work surfaces were tightly closed or sealed during the work.</p> <p>Optionally, collect one floor sample from each porch or balcony where children under age 6 play and paint-disturbing work was done.</p> <p>If building openings near the work surfaces were not sealed or tightly closed, conduct Category 1 interior dust sampling in rooms that may have been contaminated.</p>	<p>SAME as for Category 4 single-surface sampling.</p>

\* These Guidelines generally do not encourage collection of composite dust-wipe samples for the reasons stated above in Section VI.A.2, but they are permitted under Federal regulations.

## 2. Selection of Rooms

For the purposes of clearance sampling, hallways, stairways, entry rooms/lobbies, and other significant definable spaces are considered “rooms” in addition to bedrooms, bathrooms, living rooms, kitchens, dining rooms, and family rooms. Closets are not considered to be separate rooms unless they are unusually large. Most closets are considered to be part of the room to which they are attached.

If the clearance area includes one to four rooms, all rooms must be sampled. If the clearance area includes more than four rooms in a dwelling unit, the clearance examiner may select just four rooms to sample, and those rooms will represent all rooms within the clearance area. Clearance examiners and their clients may, if they wish, choose to collect dust samples in more than the minimum number of four rooms. If the clearance area contains more than four rooms, sampling all rooms in the clearance area with single-surface samples, although more expensive, gives the most information and permits targeted recleaning if any of the samples fail. Time and labor costs saved in recleaning might justify the added cost of dust sampling. An alternative to sampling in all rooms is to sample in those rooms in which high-dust paint-disturbing work has been done.

If the clearance area contains more than four rooms, the selection of four rooms for clearance dust sampling requires judgment. Two questions should guide the clearance examiner in selecting rooms to be sampled:

- (1) Where was the work done?
- (2) Where do young children spend their time?

Of the two, the first is the more important for clearance dust sampling. The first priority is to sample rooms where most of the dust-generating work was done. If that criterion is not sufficient, however, the clearance examiner should select rooms where children less than six years old spend the most time. If no information on children’s activity patterns is available or no young children are currently living in a dwelling unit, the following rooms can be considered as having frequent child contact: the bedroom that the youngest child would be likely to occupy (usually the smallest), the family room or play room, the kitchen, the living room, and the dining room.

Thus, if, for example, there are more than four rooms in the clearance area and paint-disturbing work was done in all the rooms, the clearance examiner should select rooms according to where, in his or her judgment, the most dust-generating work was done. If the work done in the various rooms did not vary much in dust generation, or if there is inadequate information on which to judge likely dust generation, the selection of rooms should be based on where children spend the most time. If only one, two or three rooms in the clearance area were work areas, those rooms should be selected, and then additional rooms should be selected according to where young children spend time. If exactly four rooms in the clearance area were work-sites, those four should be selected.

Although the same general principles apply for common areas as for dwelling units, it is recommended that all rooms in the clearance area of common areas be selected if the rooms vary widely in size, construction, age, configuration, or use.

### 3. Selection of Locations Within Rooms

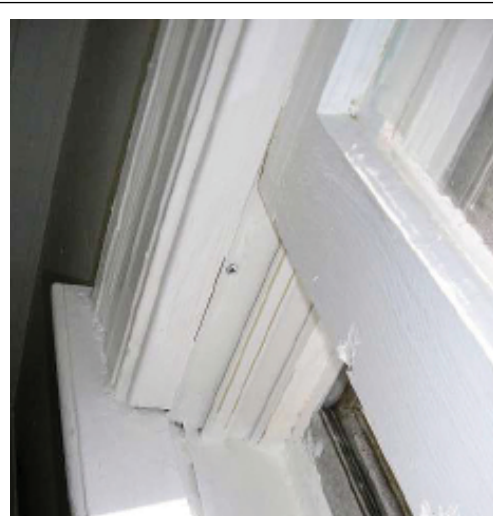
Within rooms, clearance dust samples must be taken from floors (see figure 15.6), interior window sills (if present, see Figure 15.7) and window troughs (if present). One floor sample or subsample must be collected in each sampled room. In multi-room clearance examinations using single-surface sampling, the clearance examiner should alternate sampling sills and troughs, i.e., collect a sill sample in one room, a trough sample in the next, and so forth. Where rooms have more than one window, the window to be sampled should be alternated from room to room to avoid bias in sampling. There are several ways to choose which window(s) to sample. For example, sample the rightmost window in the first room, the next one to the left in the next room, and so on, starting over when the leftmost window is reached. Similarly, sampling can start with the leftmost window and move rightward. The windows can also be randomly sampled using a random number generated by coin-flips, a die, a calculator or a computer spreadsheet. Thus, in multi-room clearance areas, a minimum of two single-surface wipe samples must be taken in each sampled room if the room has a window that can be sampled: one floor sample and one sample from either the sill or the trough.

If composite sampling is used, alternating between the sill and trough is not recommended; subsamples of each composite sample should be collected from the same component type in each sampled room. In single-room clearance areas, both the sill and the trough should be sampled, so three wipe samples must be taken in the room.

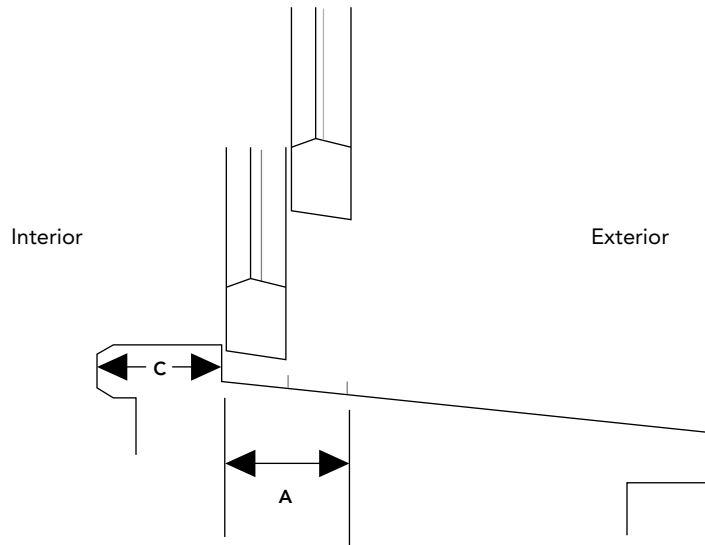
An interior window sill (sometimes called the stool) is the window ledge in front of the bottom of the closed window sash as seen while looking out the window (see Figure 15.7 for an illustration). A double-hung window has two parts that move up and down in the window frame. A window trough is the part of the window sill in which both sashes of a double-hung sash sit when lowered or, for a casement window, where the bottom of the casement sash is when it is closed, commonly called the well. If there is a frame for a storm window or a screen, the trough extends out to such a frame (see Figure 15.8). Do not sample the exterior window sill outside



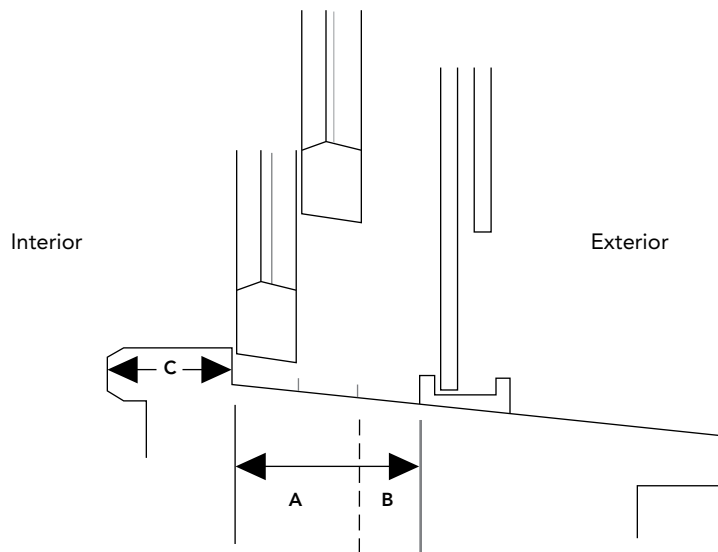
**FIGURE 15.6 A floor that may be tested.**



**FIGURE 15.7 A window sill and trough that may be tested.**



1. Sectional view of window (with no storm window) showing window trough area, A, to be tested. Trough is the surface where both window sashes can touch the sill when lowered. The interior window sill (Stool) is shown as area C. Interior window sills and window troughs should be sampled separately.



2. Sectional view of window (including storm window) showing window trough area, A and B, to be tested. Trough extends out to storm window frame. The interior window sill (stool) is shown as area C. Interior window sills and window troughs should be sampled separately.

Courtesy: Warren Fredman

**FIGURE 15.8 Window Locations for Dust Sampling.**

of the trough. EPA has not established a dust-lead hazard standard for exterior window sills. They are usually washed by rain and do not have the same dust-lead loadings as troughs.

Clearance examiners must exercise judgment in selecting the exact locations in a room from which to collect wipe samples on the floor, interior window sill, or window trough. Generally, samples should be taken either from locations near the area where the work was done, from nearby high-traffic areas (around doorways, for example), or from areas with which young children are likely to be in contact. Floor dust samples may be taken from either carpeted floors or hard-surfaced floors. The clearance examiner may determine which specific site is best based on the type of treatment, visual observation, and professional judgment.

Those performing the work must not know exactly where the clearance samples will be collected.

#### 4. Sampling Outside the Containment Area

If dust containment is used (i.e., sealing vents and installing plastic sheeting on doors between work areas and non-work areas), one floor sample must be taken outside each containment area if the clearance area is defined as being within the containment. The floor sample should be taken within 10 feet of the containment to determine the effectiveness of the containment.

If dust containment is used, one floor sample must also be taken along each passageway used by workers walking to and from the work area, to determine the effectiveness of measures taken to control the tracking of leaded dust.

#### 5. Worksite-Only Sampling

For small, low-dust non-abatement jobs, the certified renovator (or, for jobs not covered by the abatement or RRP rules, the project supervisor) is responsible for designing the containment system that will be used. In some cases, it may be acceptable for containment to consist of merely tape plastic sheeting on the floor extending at least 6 feet from the surface being worked on, and not install further containment. A low-dust job is defined generally as work that creates a small amount of dust that will not spread beyond 6 feet from the painted surfaces being disturbed. This set-up may be acceptable for such jobs as small repainting work that does not require scraping of large areas, or window replacement, if dust-limiting work practices are used. See Table 8.1 in Chapter 8 for guidance on work-site preparation. This set-up is not acceptable if an EPA-regulated abatement is performed, and it is not acceptable for high-dust jobs involving the scraping of large painted areas or the demolition of walls or ceilings or other large components.

The clearance examiner should take two floor dust samples in each room or space where work was done:

- ◆ One floor sample should be taken within 5 feet of the surface(s) that were worked on. This sample is to determine whether a significant amount of dust generated by the work remains nearby after the work and cleanup. If work was done on surfaces more than 10 feet apart, the sample should be taken near where the clearance examiner expects the greatest amount of dust to have been generated.

Another floor sample should be taken near the door that workers usually used, if this is known or can be reasonably presumed based on the work location, the room layout, material storage and holding locations, etc. If the workers' entering and exiting pattern is not known or cannot be presumed, the sample should be taken near the main door to the room or space. This sample is to determine whether workers tracked lead-contaminated dust into the unprotected part of the room or space.

- ◆ In addition, one should be taken from a window sill (if present) and one from a window trough (if present).

## 6. Composite Sampling: An Example

When the work is similar in a clearance area with multiple rooms in the same dwelling unit or child-occupied facility, or in multiple common areas of the same property, composite clearance dust samples may be collected.

An example of a composite sampling scheme is as follows: A house has undergone an abatement job involving extensive interior paint removal and has passed a visual examination. Before the work began, the owner and the clearance examiner have agreed to use composite clearance dust sampling to minimize initial laboratory expenses, based on the dust-lead analysis price schedule of the EPA-recognized laboratory being used. (Remember that the laboratory may charge based on the number of composite subsamples, which may eliminate any composite sample discount.) The house has eight rooms that were treated, four of which are carpeted, and all of which have windows. Two of the four rooms selected for sampling have carpets; two do not. At a minimum, the clearance examiner should collect the following samples:

- ◆ One composite carpeted-floor sample, with one subsample from each of the two carpeted rooms in the room sample.
- ◆ One composite hard-floor sample, with one subsample from each of the two uncarpeted rooms in the room sample.
- ◆ One composite interior window sill sample, with one subsample collected from each of the four selected rooms.
- ◆ One composite window trough sample, with one subsample collected from each of the four selected rooms.
- ◆ One field blank sample for quality assurance.

This results in a total of four composite samples, plus one field blank, for a total of five analyses. If single-surface sampling had been completed under the recommendations in Table 15.1, nine samples would be analyzed (four rooms x two samples/room, + one field blank = nine samples/dwelling).

## D. Securing the Clearance Area

The clearance area should not be occupied until the results of the laboratory analysis of dust samples have been received and the clearance examiner has found that the area has dust-lead levels below the clearance standard(s). It is especially important that children not enter the area. In most cases, closing and preferably locking of doors to the area and the use of yellow construction-area hazard tape should

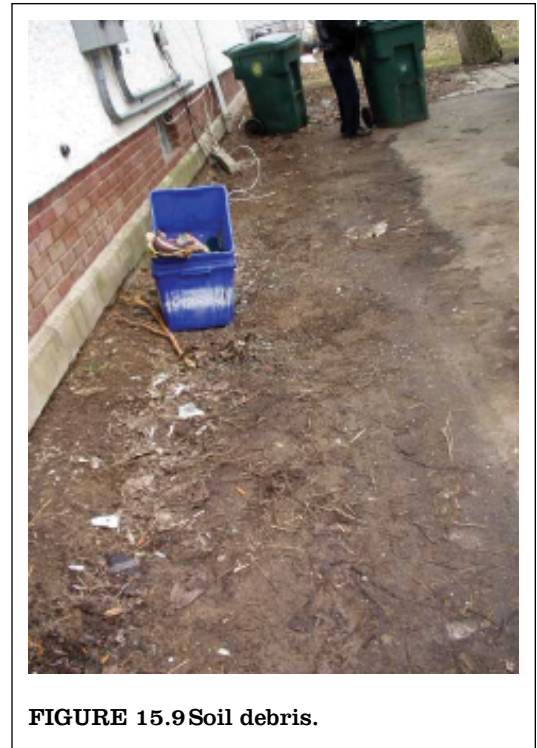
be sufficient. In circumstances where young children are likely not to be deterred by such methods and experience indicates that lead hazards may be present, it is recommended that components with a possibility of hazards be covered with a layer of plastic sheeting.

## VII. Clearance Soil Sampling (optional)

### A. Considerations for Sampling Soil Before the Work

It may be necessary to collect samples from soil that is not bare to determine if contamination has occurred. While it is generally preferable to sample bare soil, sampling covered soil is acceptable because the purpose of such sampling is not to identify a "lead-based paint hazard," but rather to determine if dust containment practices were adequate.

If soil lead levels after the work are below applicable soil lead hazard limits, the pre-abatement samples need not be analyzed. The hazard levels for soil are 400  $\mu\text{g/g}$  for play areas and 1200  $\mu\text{g/g}$  for the rest of the yard. If soil lead clearance levels are greater than or equal to the applicable limits, the baseline samples should be analyzed to determine if soil lead levels were already high before the work began. The decision to conduct soil treatment may depend on applicable regulations and/or the goals of the owner, contractor, or public agency.



**FIGURE 15.9** Soil debris.

### B. Considerations for Sampling Soil After the Work

Neither EPA nor HUD requires any soil sampling as part of a clearance examination. If work that disturbs exterior paint has been performed, it is sufficient to conduct a visual examination to assure that there are no visible paint chips and other paint-related debris on the ground or on horizontal building surfaces (including exterior window sills) near the work surfaces. Horizontal building surfaces in outdoor living areas close to the work areas, such as porches or balconies, should also be free of visible dust as well as paint chips and paint-related debris.

Soil sampling, however, should be conducted if, contrary to the prohibitions of EPA and HUD regulations and the recommendations of these *Guidelines*, exterior paint was removed by abrasive blasting, power washing or large-scale power sanding without local HEPA exhaust and full containment.

There should be no visible paint chips, visible surface dust, debris or residue on the surface of the soil near the foundation before clearance soil samples are taken. Visible paint chips should be picked up with a vacuum or by hand before soil sampling. However, soil sampling near the foundations of dwellings is often complicated by the presence of paint chips embedded in or under the soil surface from previous repainting efforts. The hazard associated with these paint chips in the soil is difficult to assess since it is often not practical to sample all the different paint chips that may be present. Therefore, these paint chips should be considered a part of the soil. They should not be sampled preferentially or excluded when collecting or analyzing the soil. Laboratories should be instructed to disaggregate (force) paint chips through the soil sieve as part of the analytical process so that paint chips remain part of the soil matrix into which they are embedded.



Clearance soil sampling is typically conducted around the foundation of the house, although it is also important to collect samples in play areas that could have been contaminated as a result of the work. All soil samples should be composite samples. If only selected faces of the building were treated, the first composite sample's subsamples should come from the soil under those faces, with a second composite soil sample collected from any nearby play areas. In both cases, bare soil should be sampled preferentially. If the exterior work involved covering bare soil areas only, clearance soil samples are not needed; a visual examination is adequate. Protocols for soil sampling are provided in Appendix 13.3 of these *Guidelines*, or ASTM Standard E 1727-05, Standard Practice for Field Collection of Soil Samples for Lead Determination by Atomic Spectrometry Techniques ([www.astm.org/Standards/E1727.htm](http://www.astm.org/Standards/E1727.htm)), or the EPA report, *Residential Sampling for Lead: Protocols for Dust and Soil Sampling*, March 1995 (EPA 747R95001) ([www.ecy.wa.gov/programs/hwtr/demodebris/pages2/leadsample.html](http://www.ecy.wa.gov/programs/hwtr/demodebris/pages2/leadsample.html)).

Sampling replacement soil, mulch, and other similar material used to replace or cover soil-lead hazards is optional at clearance (see Figure 15.9). EPA soil abatement regulations require that the lead concentration in replacement soil must be no greater than 400 parts per million (ppm; µg/g). These *Guidelines* recommend a lead concentration of no greater than 200 ppm, if possible. This lower concentration is required after interim control work in housing covered by HUD's Lead Safe Housing regulation (24 CFR 35.1330(f)(3)(i)(C)), and is recommended by HUD for abatement work in housing covered by its regulation. In a soil abatement activity, the certified abatement supervisor or contractor is responsible for installing replacement soil with acceptable levels of lead. In non-abatement activities, the owner may wish to obtain assurance from the supplier or from the clearance examiner that lead levels are acceptable, but this is generally not necessary for mulch or bark that comes from trees or other vegetation. (Shredded wood from old houses is not recommended because it may be contaminated by lead-based paint.)

If exterior work on lead-based paint has been performed, the contractor, owner, or public agency may wish to document that the work did not contaminate soil surrounding the dwelling. If this optional testing is desired, baseline soil samples (i.e., samples taken before the work began) should have been collected but not necessarily analyzed until clearance soil samples have been collected, analyzed, and compared to clearance standards. Soil samples collected during risk assessments (if one was performed) can be used as baseline samples.

### **C. Multi-family Housing Properties with more than One Building**

If a large multi-building complex (development) of multi-family housing has undergone similar lead hazard control work in several areas of the exterior or soil, random sampling of the soil around the buildings can be conducted using the sampling scheme for lead-based paint inspection (see Chapter 7). Soil should be sampled around each building that: (1) experienced exterior paint-disturbing work; and (2) contains a dwelling unit that would have been randomly selected under the procedure for unit sampling described in Chapter 7. The drawbacks of conducting random clearance sampling are the same for soil as for dust (see Section IV.B.2, above).

As with the single-building case, above, one composite soil sample should be collected around the perimeter of each building. If only selected faces of the building were treated, the samples should come from the soil under those faces. A second composite soil sample should be collected from any nearby play areas. In both cases, bare soil should be sampled preferentially.

## VIII Determining Specified Hazard Control Work was Done (optional)

If the client wishes, the report of the clearance examination may include a determination as to whether lead hazard control work on all interior and exterior surfaces to be treated was in fact done as specified. This option, which is one possible way for the owner to reduce liability, is not part of the standard clearance examination. It is normally the responsibility of the contractor performing the work or the construction manager. If desired by the client, it should be agreed to explicitly in advance. This function should be performed by a certified risk assessor or lead-based paint inspector. Sampling technicians are not trained to make this determination.

To do this, it is strongly recommended that, for most jobs, especially those involving abatement, the clearance examiner observe the work at critical phases, as well as at other times. In any event, it is essential that clearance examiners have full knowledge of the extent of the work, including the original scope and any change orders, and specifically which surfaces did not require treatment. The clearance examiner should have access to any risk assessment or paint inspection reports as well as the job scope of work or specifications and a report from the owner or contractor that the work has been completed. When paint removal and repainting or soil removal and covering are planned, verification of the removal of the lead hazards will be necessary prior to the completion of work.

Regulatory requirements:

- ◆ EPA requirements for abatement: When abatement of lead-based paint hazards is performed, EPA work practice standards require that a certified abatement supervisor be responsible for the job and that the supervisor prepare a report describing the abatement work that has been done and the results of the clearance tests. The owner may wish to ask a risk assessor or lead-based paint inspector to assist in monitoring the project and/or making a finding that the abatement was conducted in accordance with the specifications for the job as well as to perform the normal clearance examination.
- ◆ HUD requirements for interim controls in Federally-assisted housing: If the job is covered by HUD requirements for housing receiving Federal assistance or housing being sold by the Federal Government, HUD's Lead Safe Housing Rule requires that the owner or another designated party prepare a report that describes the hazard reduction or maintenance work that has been performed. In this case, the client may want the clearance examiner to assist in determining that the work is done as planned and to prepare the description of the work, or the client may prepare the description of the work. In either case, the clearance examiner must prepare the report on the results of the clearance examination.
- ◆ Lead-poisoning cases: In the case of a child with an elevated blood-lead level, local or State authorities may require that the treatment of all indicated surfaces be verified by a Government employee or certified third party, especially in cases where the abatement has been ordered by local authorities. In addition, for certain types of HUD housing assistance, HUD's Lead Safe Housing Rule requires environmental interventions when the children's blood lead level is sufficiently high. Clearance examiners should determine if the property they are evaluating has been treated as a result of a legal or regulatory proceeding. If so, the enforcement agency should be contacted to coordinate clearance procedures, prevent duplication of effort and, most important, ensure that the private clearance process is not inadvertently overstepping the bounds of the normal practices of the local health department or childhood lead-poisoning prevention program.

A report on work done should contain the following information:

- ◆ The address or location of the property or structures to which the report applies;
- ◆ The start and completion dates of the work;
- ◆ The name, address, and certification type and number of each firm or organization conducting the work, and the name(s) of supervisor(s) / certified renovator(s) assigned to the work;
- ◆ A detailed written description of the work, including the methods used, locations of exterior surfaces, interior rooms *and common areas*, and/or components where the work occurred, and (if applicable) any suggested monitoring of encapsulants or enclosures; and
- ◆ If soil hazards were controlled, a detailed description of the locations of the work and the methods used.

See Section X, below, for a list of information to be included in a report on the results of a clearance examination.

The following is guidance for determining completion of various types of lead hazard control work.

### A. Paint Removal and Repainting

All surfaces where paint has been removed should be visually examined *prior to repainting*. If clearance is conducted after new paint is applied, it is often impossible to determine if the old paint was actually removed. Areas commonly overlooked during paint removal projects include the underside of interior window sills and handrails, backside of radiator ribs, the bottom edge of doors, the top of doorframes, and the back edge of shelving.

For both on-site and off-site paint removal, the clearance examiner or the owner should examine the bare surfaces to ensure that there is no visible residue (see Figure 15.10). If residue remains, the component should be cleaned prior to repainting or refinishing.

Wipe sampling and X-ray fluorescence (XRF) testing are not appropriate tools for determining the effectiveness of paint removal from a particular surface. Wipe sampling cannot dislodge any leaded-dust that may have been absorbed into the substrate during the removal process, nor can it remove paint that is still bonded to the substrate. Wipe sampling is appropriate for measurement of settled leaded-dust on floors, interior window sills, and window troughs. It is not appropriate to apply the settled leaded-dust clearance standard to stripped surfaces prior to repainting because the bare surface will be sealed with new paint, thus rendering the dust inaccessible. Appendix 1 describes how much lead-contaminated dust can remain on a surface (at least 35,000  $\mu\text{g}/\text{ft}^2$ ) before it would cause the newly applied paint to become lead-based paint (at 0.5 percent).



**FIGURE 15.10** Surfaces that may have had paint stripped.

XRF testing of surfaces that have been stripped and repainted is not recommended. If the paint has been removed, removal should be assessed visually prior to repainting. Therefore the work specification should require the contractor to request visual clearance before paint or primer is applied. If for some reason it is not possible to visually determine that the paint has been removed, then XRF readings can be taken. The protocols described in Chapter 7 apply.

### **B. Building Component Removal and Replacement**

If building components coated with lead-based paint were removed as a lead hazard control measure, the clearance examiner should have detailed knowledge of the scope of the activities so that actual removal can be verified. Each building component specified for replacement should also be examined to determine if it was overlooked during the lead hazard control work.

### **C. Enclosures**

Complete installation of enclosure systems, such as new drywall, paneling, or siding, can be best evaluated by direct visual observation. The clearance examiner should determine that the mechanical fastening system used to hold the enclosure to the substrate is adequate. This is especially important for ceilings. All seams and edges in the enclosure should be sealed to provide a “dust-tight” (but not necessarily airtight) system (see Chapter 12 for further information on enclosures.)

### **D. Encapsulants**

Another category of lead hazard control that can best be assessed visually is the application of encapsulants. Assuming that the encapsulant was properly selected for the surface undergoing treatment and that patch tests were conducted as recommended in Chapter 13, the clearance examiner can determine if the encapsulant is, in fact, present. Some States have requirements for the composition and/or application of encapsulants used in abatement.

### **E. Soil Treatments**

Soil treatments, which typically consist of some form of covering or removal and/or replacement, can be assessed by visual observation to determine if the covering is present. For example, if sod or asphalt has been used as a soil covering, the clearance examiner should determine if all bare areas have been covered by sod or asphalt, as specified. See guidance on optional soil testing in Section VII, above.

### **F. Interim Controls**

Visual examination of the wide variety of interim control measures consists of a confirmation that all lead-based paint (either suspected or identified through testing) within the scope of work is stabilized, and that any friction, impact, and other surfaces marked for treatment in the risk assessment report or project specifications have all been properly treated. No known or suspected lead-based paint within the scope of work should be in a deteriorated condition in a cleared dwelling or on the building exterior.

## IX. Interpretation of Clearance Results, Recleaning, and Resampling

### A. Visual Assessment Results

The clearance examiner should follow the procedures for visual assessment recommended in Section V.A, above.

### B. Dust Sampling Results

Clearance dust standards are shown in Table 15.2 for single-surface wipe samples. Levels from single-surface wipe samples must be less than these levels to pass clearance. Clearance standards are shown in micrograms per square foot ( $\mu\text{g}/\text{ft}^2$ , micrograms of lead per square foot of sampled area, the common measurement unit for dust-lead clearance in the U.S.), and their equivalents in milligrams per square meter ( $\text{mg}/\text{m}^2$ , commonly used outside the U.S.).

Levels from a composite sample must be less than the following: the levels in Table 15.2 divided by one-half of the number of subsamples in the composite. Composite samples with two, three or four subsamples may be collected; the single-sample standards are divided by 1, 1.5 or 2, respectively, to determine the composite-sample standards. Clearance dust standards are shown in Table 15.3 for composite samples, in both  $\mu\text{g}/\text{ft}^2$  and  $\text{mg}/\text{m}^2$ .

### C. Recleaning and Resampling

#### 1. Single-Surface Clearance Sampling

If single-surface wipe sample lead dust levels equal or exceed those shown in Table 15.2, cleaning and sampling must be repeated until compliance is achieved. The clearance examiner should explain to the client exactly what surfaces must be recleaned in what rooms. The recleaning should be focused on those types of surfaces where the sampling results indicate that the previous round of cleaning was inadequate. For example, if floor lead dust levels are above the standard, but interior window sills and window troughs are below the standard, only the floors need to be recleaned. Similarly, if single-surface samples fail in one room, then only that room and any rooms not sampled need to be recleaned. If composite samples fail, then *all* the surfaces the composite represents need to be recleaned (or resampled individually to determine which ones require recleaning). For example, consider the two examples shown in Tables 15.4 and 15.5.

**Table 15.2 Clearance Dust Standards (Single-Surface Wipe Samples).**

Surface	Dust-Lead Loadings Must Be Less Than <sup>1</sup> :	
Bare and carpeted floors	40 $\mu\text{g}/\text{ft}^2$	0.43 $\text{mg}/\text{m}^2$
Interior window sills	250 $\mu\text{g}/\text{ft}^2$	2.70 $\text{mg}/\text{m}^2$
Window troughs	400 $\mu\text{g}/\text{ft}^2$	4.30 $\text{mg}/\text{m}^2$

<sup>1</sup>Dust-lead standards are expressed in micrograms per square foot ( $\mu\text{g}/\text{ft}^2$ ). To convert from  $\mu\text{g}/\text{ft}^2$  to  $\text{mg}/\text{m}^2$ , multiply by 0.01076.

In Table 15.4 only the floors in rooms 1 and 2 require recleaning, assuming it is a four-room clearance area. The entire floor of each of these two rooms must be cleaned, not just the sampled spot. If there are unsampled rooms, the entire floors in those rooms would have to be recleaned also, or the floors in those rooms would have to be independently sampled, with any floor recleaning confined to rooms failing clearance. In either case, new floor dust samples would have to be taken to represent the rooms that were recleaned (if more than four rooms are recleaned, samples can be taken in a sample of rooms, as described in Section VI.C, above), and the samples must be analyzed and the results interpreted to determine whether the rooms pass clearance.

## 2. Composite Clearance Sampling

In Table 15.5, which is based on composite sampling with four subsamples in each composite, the clearance standard is one-half the standard for single-surface sampling; because one-half of 4 is 2, the single-surface sampling standard is divided by 2. Thus the standards applicable to this case are 20  $\mu\text{g}/\text{ft}^2$  for floors, 125  $\mu\text{g}/\text{ft}^2$  for interior window sills, and 200  $\mu\text{g}/\text{ft}^2$  for window troughs. This is shown in Table 15.3.

The floors and window sills are below their respective composite clearance standards, so they pass clearance. The window troughs, with dust-lead levels at 3695  $\mu\text{g}/\text{ft}^2$ , is at or above the 200  $\mu\text{g}/\text{ft}^2$  composite clearance standard for four window trough subsamples (specifically, it exceeds the standard). Therefore all the window troughs should be recleaned in all four sampled rooms and any rooms not sampled. While the window troughs could conceivably be sampled individually to determine which ones require recleaning, it is likely to be more cost effective to simply reclean all of them. When cleaning troughs, the interior sills should also be cleaned, even if they were not originally contaminated, to minimize contamination of the sills during cleaning of the troughs.

Recleaning, if necessary, should be performed as soon as possible after receiving dust sampling results because dust lead on failed surfaces can migrate to other surfaces that successfully cleared.

Repeated sampling of the recleaned surfaces should be completed to ensure that the recleaning was sufficiently effective. (The clearance examiner and work supervisor may also want to recheck the completeness of the work.) In the second round of sampling, the clearance examiner should take wipe samples from specific floor, sill, or trough locations that are different from the specific wipe locations used in the initial round of sampling because the initial wipe cleaned the wiped surface. Also, the clearance examiner should consider taking one or more of the second wipe samples in unsampled rooms, if any, unless no work was done in those rooms.

If a surface fails clearance twice, the property owner should consider additional hazard control measures and/or further sealing of the surface prior to a second recleaning and a third round of clearance dust sampling.

**Table 15.3 Clearance Dust Standards (Composite Wipe Samples)<sup>1</sup>.**

Surface / Number of subsamples	Dust-Lead Loadings Must Be Less Than <sup>2</sup> :	
Bare and carpeted floors		
2	40 µg/ft <sup>2</sup>	0.43 mg/m <sup>2</sup>
3	27 µg/ft <sup>2</sup>	0.29 mg/m <sup>2</sup>
4	20 µg/ft <sup>2</sup>	0.22 mg/m <sup>2</sup>
Interior window sills		
2	250 µg/ft <sup>2</sup>	2.70 mg/m <sup>2</sup>
3	167 µg/ft <sup>2</sup>	1.79 mg/m <sup>2</sup>
4	125 µg/ft <sup>2</sup>	1.35 mg/m <sup>2</sup>
Window troughs		
2	400 µg/ft <sup>2</sup>	4.30 mg/m <sup>2</sup>
3	267 µg/ft <sup>2</sup>	2.87 mg/m <sup>2</sup>
4	200 µg/ft <sup>2</sup>	2.15 mg/m <sup>2</sup>

<sup>1</sup> The standard for a composite clearance dust sample is determined by dividing the single-surface standards, above, by one-half the number of subsamples in the composite sample. Thus, for a three-subsample composite, half of 3 equals 1.5, so the floor standard is 40 µg/ft<sup>2</sup> divided by 1.5, which equals 27 µg/ft<sup>2</sup>.

<sup>2</sup> Dust-lead standards are expressed in micrograms per square foot (µg/ft<sup>2</sup>). To convert from µg/ft<sup>2</sup> to mg/m<sup>2</sup>, multiply by 0.01076.

**Table 15.4 Hypothetical Example of Single-Surface Clearance Dust Sampling Data.**

Room	Floors (µg/ft <sup>2</sup> )	Interior Sills (µg/ft <sup>2</sup> )	Window Troughs (µg/ft <sup>2</sup> )
1	230	50	190
2	375	65	285
3	28	70	214
4	31	40	305

**Table 15.5 Hypothetical Example of Composite Clearance Dust Sampling Data.**

Surface	Rooms Included in Composite	Leaded Dust (µg/ft <sup>2</sup> )
Floors	1,2,3,4	18
Interior window sills	1,2,3,4	120
Window troughs	1,2,3,4	3695

## X. Report Preparation

It is essential that the clearance examiner provide the client with a report documenting the results of the clearance. EPA specifies the required contents for an abatement *report* at 40 CFR 745.227(e)(10). HUD specifies the required report contents for *non-abatement projects in units covered* by the Lead Safe Housing Rule at 24 CFR 35.1340(c). A checklist-based worksheet (Form 15.4) covers both requirements.

### A. Summary Report

The report should include a one-page summary at the beginning of the report that is suitable for communication with residents, as well as a complete file of the visual assessment(s) form(s) and the dust sampling results form(s). Form 15.3, at the end of this chapter, provides a format for the summary report. The summary should contain the following information:

1. The address of the property where the clearance area is located.
2. A description of the area(s) covered by the clearance examination, including, as applicable, the specific dwelling units or common areas covered by the clearance and the specific rooms and exterior spaces.
3. The name and address of the client.
6. A summary of the results of the visual assessment. (The clearance examination should be stopped if the visual assessment fails.)
7. A summary of the results of the dust testing, which should include either:
  - (a) A statement that no dust-lead hazards, as defined by the relevant EPA, State, Tribal or local standards, were found in the clearance area, and the date of the dust sampling; or
  - (b) A statement that dust-lead hazards were found in the initial examination, identifying the date of the initial examination, the rooms and surfaces where dust-lead hazards were found, including any unsampled rooms and surfaces represented by the samples, and stating the dust-lead levels found.
8. If dust-lead hazards were found in a second or later round of dust sampling, a similar summary of the results of the dust testing should be provided for each round separately.
9. If the initial or later round of sampling found no dust-lead hazards, the report of a successful clearance examination should contain a statement that, based on visual assessment and dust sampling on the specific sampling date, no dust-lead hazards, as defined by the relevant EPA or State, Tribal or local standards, were found.
10. Identification of the clearance examiner(s), including the name of the clearance examiner, the name of the examiner's firm or organization, business address and telephone number, and the examiner's license or certification number.
11. Identification of the laboratory, including the name, address, telephone number, and NLLAP number.
12. The signature of the clearance examiner, with date.



The owner should use the summary of the report for, among other purposes: (1) promptly notifying current residents of the clearance results, as required by the HUD Lead Safe Housing Rule (if the property is covered by that rule), and (2) disclosing clearance dust-lead testing results and other lead reports, records and knowledge to prospective lessees (tenants) and purchasers of the property before they become obligated under a lease or sales contract, as required by Federal law under the HUD-EPA Lead-Based Paint Disclosure Rule (24 CFR 35, subpart A and 40 CFR 745, subpart F). The disclosure rule applies to almost all pre-1978 housing. See Appendix 6 for more information.

## **B. Regulatory Report Requirements**

When abatement is performed, a certified supervisor or project designer must provide an abatement report that follows 40 CFR 745.227(e)(10) if EPA is operating the State or Tribal lead abatement certification program. In a State or Tribal area that has an EPA-authorized lead abatement certification program, the abatement report must follow that program's regulation.

When a non-abatement hazard reduction or maintenance activity requiring a clearance report is performed in housing covered by HUD's Lead Safe Housing Rule, the report must follow 24 CFR 35.1340(c) of that regulation.

Because HUD's report requirements were based on EPA's, the two reports are similar. The common and individual-agency requirements are outlined below; see the regulations for the exact wording of the requirements:

1. (Both) Start and completion dates of the abatement, lead hazard reduction or maintenance work.
2. (Both) The name and address of each certified firm conducting the work, and the name of each supervisor assigned to the project.
3. (HUD) The address of the residential property where the work was done, and, if only part of a multi-family property is affected, the specific dwelling units and common areas affected.
4. (EPA) The occupant protection plan.
5. (Both) The name, address, and signature of the clearance examiner.
6. (Both) The date(s) of clearance examination and testing.
7. (HUD) The results of the visual assessment for the presence of deteriorated paint and visible dust, debris, residue or paint chips.
8. (Both) The results of clearance testing, including the results of the analysis of dust samples, in  $\mu\text{g}/\text{sq. ft.}$ , by location of sample.
9. (EPA) The results of all soil analyses (if applicable), in parts per million ( $\mu\text{g}/\text{g}$ ), by location of sample.
10. (Both) The name of each NLLAP-recognized laboratory that conducted the analyses.
11. (HUD) The address and NLLAP identification number for each laboratory.
12. (Both) A detailed written description of the work, including the methods used, locations of exterior surfaces, interior rooms, common areas, and/or components where the hazard reduction activity occurred, and any suggested monitoring of encapsulants or enclosures.

13. (HUD) If soil hazards were reduced, a detailed description of the location(s) of the hazard reduction activity and the method(s) used.

Some States, Tribes or localities may have specific requirements or forms pertaining to clearance reports. Clearance examiners must comply with those requirements if they are more stringent or protective than the applicable federal requirements.

## **XI. Recordkeeping**

### **A. Recordkeeping Responsibilities**

Three parties should maintain records of all abatement, interim control, risk assessment, inspection, and clearance results, and resident notifications and disclosure forms, with which they have been involved:

- ◆ Property owner.
- ◆ Contractor.
- ◆ Clearance examiner.

See Section X.A, above, regarding the owner's responsibility for clearance report record retention and disclosure / notification under the Lead Disclosure Rule and, if applicable, the Lead Safe Housing Rule. (See Appendix 6 for more information on record retention, disclosure, and notification.) Some jurisdictions may also require submission of such records to an enforcement agency or a lead-safe housing registry.

### **B. Record Content**

The records should include all laboratory results, quality control/quality assurance procedures, dates of both visual examination and environmental sampling, completed forms, and appropriate identifiers for the property – the owner, inspector, contractor, and resident(s).

### **C. Length of Retention**

Records of all clearance testing should be kept for no less than 3 years but preferably for the duration of the life of the building, since it is to the benefit of the owners to retain this information. See Appendix 6 for more information. Some states require a longer period of record retention of (e.g., New Jersey requires that lead records for multi-family target housing be retained for at least 5 years).

**Form 15.1 Visual Assessment –  
Lead Hazard Clearance Examination.**

Property address: \_\_\_\_\_ Page \_\_\_\_\_ of \_\_\_\_\_

Name of client: \_\_\_\_\_

Name of clearance examiner: \_\_\_\_\_ Certification No.: \_\_\_\_\_ Exp. date: \_\_\_\_\_

Date of visual assessment: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Repeat visual assessment?  Yes  No

This form covers:  Dwelling units. (Specify which units) \_\_\_\_\_

Common areas. (Specify which areas) \_\_\_\_\_

Exterior areas/outbuildings. (Specify) \_\_\_\_\_

Any deteriorated paint, visible dust, paint chips, or paint-related debris observed?  Yes  No

If "Yes," record observations in the table below:

Room, Area, or Side of Building (if exterior)	Building Component, or Other Surface (such as ground or vegetation)	Additional Notes on Specific Location	Description of Problem (i.e., deteriorated paint, visible dust, paint chips, or paint-related debris)

**Notes** (include any explanations by the client of why deteriorated paint has not been repaired; also include any instructions to client regarding further cleaning):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Signature of clearance examiner: \_\_\_\_\_

## Form 15.2 Field Sampling Form for Dust-Lead Hazard Clearance Examination (single-surface sampling).

Property address: \_\_\_\_\_ Apt. no. or common area: \_\_\_\_\_ Page \_\_\_\_\_ of \_\_\_\_\_

Name of property owner: \_\_\_\_\_ Name of clearance examiner: \_\_\_\_\_

Certification #: \_\_\_\_\_ Exp. date: \_\_\_\_\_

Sample Number	Room (if possible, use room names used by the owner or resident)	Surface Type (hard floor, carpeted floor, interior window sill, or window trough)	Exact Location of Wipe Sample	Dimensions of Sample Area (inches x inches) <sup>1</sup>	Area of Sample (sq. ft. <sup>2</sup> )	Results of Lab Analysis		Pass <sup>3</sup> (less than standard or Fail (equal or greater than st'd.))
						µg of Pb in Sample	µg/ft <sup>2</sup>	

<sup>1</sup> Measure to the nearest 1/8th or 1/10th of an inch. [1/8 = 0.125; 2/8 = 0.25; 3/8 = 0.375; 4/8 = 0.5; 5/8 = 0.625; 6/8 = 0.75; 7/8 = 0.875]

<sup>2</sup> Calculate area in square feet as follows: Calculate square inches, then divide by 144.

<sup>3</sup> EPA standard: 40 µg/sq. ft. for floors; 250 µg/sq. ft. for interior window sills; and 400 µg/sq. ft. for window troughs.

Total number of samples on this page: \_\_\_\_\_ Date of sample collection: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_ Date shipped to lab: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

Shipped by: \_\_\_\_\_ (signature) Received by: \_\_\_\_\_ (signature and date) Reviewed by: \_\_\_\_\_ (signature and date)

Date results reported by lab: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_ Reviewed by: \_\_\_\_\_

### **Form 15.3 Lead Hazard Clearance Report – Completed Example**

The following report is a made-up example of a clearance report from a small , non-abatement, rehabilitation job (less than \$5,000) that involved window replacements in the small bedroom and kitchen of a single-family home that is available for rent. The clearance report covers clearance of the worksite.

**Home Environmental Inspection Services, Inc.**

345 Hammond Road  
 East Chicago, IN 12345  
 123-123-1235  
 345-789-5678 (fax)

Firm certification number: IN 78787

# Clearance Report

## General Information

Date of clearance examination:	8/5/2010
Clearance Examiner:	Joe Smith
Certification Category:	Risk Assessor
Certification Number:	IN 77777
Property address:	78 East Main St., Apt. A Hammond, IN 89898
Client name:	Sally Jones
Client address:	80 East Main St. Hammond, IN 89898
Laboratory:	Analysis Services, Inc.
Address:	990 45 <sup>th</sup> St., Suite 500 Gary, IN 44444
Telephone number:	222-222-2222
NLLAP number:	IN 999999

## Summary of Clearance Results

Dust above Federal standards was found in the following areas:

Location	Surface	Fg lead/ft <sup>2</sup>
Small bedroom	Side facing window (C-1) – windowsill	600
Small bedroom	Floor	200
Kitchen	Window above sink (A-1) – windowsill	525

**Signature:** Joe Smith

**Date:** 8/6/2010

**Summary of Hazard Reduction Activities**

Name of firm	ABC Renovations
Address of Firm	123 Main Street East Chicago, IN 12345
Abatement or RRP Firm Certification Number	IN45789
Name of Certified Abatement Supervisor / Certified Renovator	John Brown #1634
Supervisor / Renovator Certification Number	IN1634
Start and completion date of hazard reduction or abatement activity.	8/1/2010 to 8/5/2010

**Description of Hazard Reduction Activities and Areas Addressed:**

Location	Activity
Kitchen	Replaced A-1 window with new, vinyl-clad window
2nd Floor Small Bedroom	Replaced C-1 and C-2 windows with new, vinyl-clad windows
Description of Work	The certified renovator was present on the job site when work was being performed. Workers used lead-safe work practices. Plastic sheeting covered a 8-foot area on the ground outside under the windows being replaced and on the floor inside. Signs were posted at the doors to the bedroom and kitchen. Occupants were not allowed in the kitchen and bedroom and the outside work area during this activity. The window frame was misted prior to tear-out. After removal, workers wrapped the old windows in plastic sheeting and picked up debris on the plastic immediately and bagged it. The plastic sheeting was carefully gathered up and bagged for disposal. Workers replaced their disposable booties when leaving the work area for lunch and breaks. Respirators were not necessary. The new windows were installed and, in accordance with the contract, a clearance examination was requested.

**On-Going Lead-Based Paint Monitoring Requirements:**

HOME rental assistance is not provided to this unit, so ongoing LBP maintenance is not required.

**VISUAL EVALUATION RESULTS FORM**

<b>Date of clearance:</b>	8/5/2010
<b>Clearance Technician:</b>	Joe Smith
<b>Client:</b>	Sally Jones
<b>Property address:</b>	78 East Main St., Apt. A Hammond, IN 89898

**Visual Assessment of the Work Area**

Work Area	Deteriorated Paint	Debris	Visible Dust	Notes	Pass/Fail
Small bedroom					Pass
Kitchen					Pass
First floor hallway					Pass
Staircase					Pass
Second floor hallway					Pass
Exterior soil under kitchen window					Pass
Exterior soil under bedroom window					Pass



**DUST SAMPLING RESULTS FORM**

<b>Date of clearance:</b>	8/5/2010
<b>Clearance Technician:</b>	Joe Smith
<b>Client:</b>	Sally Jones
<b>Property address:</b>	78 East Main St., Apt. A Hammond, IN 89898

Sample #	Location	Surface	Dimensions of sample area	µg Lead/ft <sup>2</sup>	Pass/Fail
1-2	Upstairs small bedroom	Front facing window (C-2)- windowsill	4" x 18"	17	Pass
1-3	Upstairs small bedroom	Floor under C-1 window	12" x 12"	200	Fail
1-4	Upstairs small bedroom	Side facing window (C-1)- windowsill	4" x 18"	600	Fail
2-1	Second floor	Floor	12" x 12"	35	Pass
3-1	Staircase	Floor	12" x 12"	30	Pass
4-1	Kitchen	Floor under A-1 window	12" x 12"	12	Pass
4-2	Kitchen	Window above sink (A-1)- windowsill	4" x 18"	525	Fail
5-1	First floor	Floor	12" x 12"	30	Pass

## Understanding Your Report

1. The Summary Results section lists all of the areas that failed the clearance examination. The areas represented by the sample needs to be re-cleaned and re-tested to see if the cleaning removed the contaminated dust. Deteriorated painted surfaces should be repaired using interim controls or abatement techniques.

For written information on how to address lead hazards, call the National Lead Information Center Clearinghouse at 1-800-424-Lead (1-800-424-5323). You may consider hiring a risk assessor to evaluate lead hazards in your home and recommend a lead hazard control plan. Risk assessors may be found from the EPA Regional Lead Coordinator, if the property is in a State for which EPA operates the lead certification program, through [www.epa.gov/lead/pubs/leadoff1.htm](http://www.epa.gov/lead/pubs/leadoff1.htm), or if the property is in a State or Tribal Area which does operate the lead certification program, through [www.epa.gov/lead/pubs/traincert.htm](http://www.epa.gov/lead/pubs/traincert.htm).

2. The laboratory result forms attached to the report list all of the areas sampled inside and outside the dwelling and the laboratory analysis results for each sample.
3. The dust sampling results are expressed in micrograms per square foot ( $\mu\text{g}/\text{ft}^2$ ); soil samples are expressed in micrograms per gram ( $\mu\text{g}/\text{g}$ ).
4. Areas that failed the clearance examination showed lead levels in dust at or above Federal or state standards. The standards that were used for during this clearance examination are:

### HUD/EPA Clearance Standards for Lead in Dust

Carpeted and Uncarpeted Floors:  $40 \mu\text{g}/\text{ft}^2$

Interior window sill (stool):  $250 \mu\text{g}/\text{ft}^2$

Window trough:  $400 \mu\text{g}/\text{ft}^2$

### Form 15.4 Clearance Report Review Worksheet

You may use the worksheet for a project that requires clearance, or when the owner chooses to have clearance, to document clearance was achieved and the clearance report is complete.

Property Address: \_\_\_\_\_ Date: \_\_\_\_\_

Name of Reviewer: \_\_\_\_\_ Title: \_\_\_\_\_

Question	Yes	No	Notes
<i>The clearance examiner's report must include the information in items number 1 through 6, and 13a. See below on instructions for Items 7-12. Item 12 may be required.</i>			
1. Property address and specific unit or common areas identified.			
2. Name, address, signature and certification number of each person involved in the clearance examinations.			
3. Name and NLLAP identification number of each laboratory conducting an analysis.			
4. Dates of clearance examination.			
5. Results of visual assessment for the presence of deteriorated paint and visible dust, debris, residue or paint chips.			
6. Results of all analyses (dust wipes in micrograms per square feet (µg/ft <sup>2</sup> ); soil in parts per million) by location of sample, as well as information about the laboratory.			
<i>The clearance report must also include information on lead hazard reduction (Items 7-11). Indicate the source of the information (the designated party or contractor may have to provide this information) if the clearance examiner was not responsible for the information. Item 12 is required for abatement and optional for other projects.</i>			
7. Name and address of each firm and supervisor involved in the lead hazard reduction activity.			
8. Start and completion dates of lead hazard reduction activity.			
9. Detailed <i>written</i> description of the lead hazard reduction activity, including the methods used.			
10. Locations of exterior surfaces, interior rooms, common areas and/or components where the hazard reduction activity occurred.			
11. Any suggested monitoring requirements. (If none, enter "N/A".)			
12. Occupant protection plan ( <i>required for abatement project, optional otherwise; if not required or done, enter "N/A"</i> ).			
<i>Evaluate the results of the report.</i>			
13. Did each unit or common area pass clearance?			

**Other Notes:**

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### Form 15.5 Example of Filled-In Clearance Report Review Worksheet

Property Address: 78 East Main St., Apt. A, Hammond, IN 89898 Date: 8/8/2010

Name of Reviewer: John Jones Title: Construction Specialist, City of Hammond, IN

Question	Yes	No	Notes
<i>The clearance examiner's report must include the information in items number 1 through 6, and 13a. See below on instructions for Items 7-12. Item 12 may be required.</i>			
1. Property address and specific unit or common areas identified.	x		
2. Name, address, signature and certification number of each person involved in the clearance examinations.	x		
3. Name and identification number of each laboratory conducting an analysis.	x		
4. Dates of clearance examination.	x		
5. Results of visual assessment for the presence of deteriorated paint and visible dust, debris, residue or paint chips.	x		
6. Results of all analyses (dust wipes in micrograms per square feet (µg/ft <sup>2</sup> ); soil in parts per million) by location of sample, as well as information about the laboratory.	x		
<i>The clearance report must also include information on lead hazard reduction (Items 7-11). Indicate the source of the information (the designated party or contractor may have to provide this information) if the clearance examiner was not responsible for the information. Item 12 is required for abatement and optional for other projects.</i>			
7. Name and address of each firm and supervisor involved in the lead hazard reduction activity.	x		
8. Start and completion dates of lead hazard reduction activity.	x		
9. Detailed written description of the lead hazard reduction activity, including the methods used.	x		
10. Locations of exterior surfaces, interior rooms, common areas and/or components where the hazard reduction activity occurred.	x		
11. Any suggested monitoring requirements. (If none, enter "N/A".)	N/A		
12. Occupant protection plan (required for abatement project, optional otherwise; if not required or done, enter "N/A").	N/A		
<i>Evaluate the results of the report.</i>			
13. Did each unit or common area pass clearance?	x		

**Other Notes:**

HOME rental assistance is not provided to this unit, so ongoing LBP maintenance is not required.

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## **RESIDENTIAL LEAD-BASED PAINT HAZARD REDUCTION ACT OF 1992 (PUBLIC LAW 102-550), AS AMENDED THROUGH APRIL 21, 2005**

### SEC. 1001. SHORT TITLE.

This title may be cited as the "Residential Lead-Based Paint Hazard Reduction Act of 1992".

### SEC. 1002. FINDINGS.

The Congress finds that --

- (1) low-level lead poisoning is widespread among American children, afflicting as many as 3,000,000 children under age 6, with minority and low-income communities disproportionately affected;
- (2) at low levels, lead poisoning in children causes intelligence quotient deficiencies, reading and learning disabilities, impaired hearing, reduced attention span, hyperactivity, and behavior problems;
- (3) pre-1980 American housing stock contains more than 3,000,000 tons of lead in the form of lead-based paint, with the vast majority of homes built before 1950 containing substantial amounts of lead-based paint;
- (4) the ingestion of household dust containing lead from deteriorating or abraded lead-based paint is the most common cause of lead poisoning in children;
- (5) the health and development of children living in as many as 3,800,000 American homes is endangered by chipping or peeling lead paint, or excessive amounts of lead-contaminated dust in their homes;
- (6) the danger posed by lead-based paint hazards can be reduced by abating lead-based paint or by taking interim measures to prevent paint deterioration and limit children's exposure to lead dust and chips;
- (7) despite the enactment of laws in the early 1970's requiring the Federal Government to eliminate as far as practicable lead-based paint hazards in federally owned, assisted, and insured housing, the Federal response to this national crisis remains severely limited; and
- (8) the Federal Government must take a leadership role in building the infrastructure -- including an informed public, State and local delivery systems, certified inspectors, contractors, and laboratories, trained workers, and available financing and insurance -- necessary to ensure that the national goal of eliminating lead-based paint hazards in housing can be achieved as expeditiously as possible.

### SEC. 1003. PURPOSES.

The purposes of this Act are --

- (1) to develop a national strategy to build the infrastructure necessary to eliminate lead-based paint hazards in all housing as expeditiously as possible;
- (2) to reorient the national approach to the presence of lead-based paint in housing to



implement, on a priority basis, a broad program to evaluate and reduce lead-based paint hazards in the Nation's housing stock;

(3) to encourage effective action to prevent childhood lead poisoning by establishing a workable framework for lead-based paint hazard evaluation and reduction and by ending the current confusion over reasonable standards of care;

(4) to ensure that the existence of lead-based paint hazards is taken into account in the development of Government housing policies and in the sale, rental, and renovation of homes and apartments;

(5) to mobilize national resources expeditiously, through a partnership among all levels of government and the private sector, to develop the most promising, cost-effective methods for evaluating and reducing lead-based paint hazards;

(6) to reduce the threat of childhood lead poisoning in housing owned, assisted, or transferred by the Federal Government; and

(7) to educate the public concerning the hazards and sources of lead-based paint poisoning and steps to reduce and eliminate such hazards.

#### SEC. 1004. DEFINITIONS.

For the purposes of this Act, the following definitions shall apply:

(1) Abatement. The term "abatement" means any set of measures designed to permanently eliminate lead-based paint hazards in accordance with standards established by appropriate Federal agencies. Such term includes --

(A) the removal of lead-based paint and lead-contaminated dust, the permanent containment or encapsulation of lead-based paint, the replacement of lead-painted surfaces or fixtures, and the removal or covering of lead contaminated soil; and

(B) all preparation, cleanup, disposal, and postabatement clearance testing activities associated with such measures.

(2) Accessible surface. The term "accessible surface" means an interior or exterior surface painted with lead-based paint that is accessible for a young child to mouth or chew.

(3) Certified contractor. The term "certified contractor" means --

(A) a contractor, inspector, or supervisor who has completed a training program certified by the appropriate Federal agency and has met any other requirements for certification or licensure established by such agency or who has been certified by any State through a program which has been found by such Federal agency to be at least as rigorous as the Federal certification program; and

(B) workers or designers who have fully met training requirements established by the appropriate Federal agency.

(4) Contract for the purchase and sale of residential real property. The term "contract for the purchase and sale of residential real property" means any contract or agreement in which one party agrees to purchase an interest in real property on which there is situated 1 or more residential dwellings used or occupied, or intended to be used or occupied, or intended to be used

or occupied, in whole or in part, as the home or residence of 1 or more persons.

(5) Deteriorated paint. The term "deteriorated paint" means any interior or exterior paint that is peeling, chipping, chalking or cracking or any paint located on an interior or exterior surface or fixture that is damaged or deteriorated.

(6) Evaluation. The term "evaluation" means a risk assessment, inspection, or risk assessment and inspection.

(7) Federally assisted housing. The term "federally assisted housing" means residential dwellings receiving project-based assistance under programs including --

- (A) section 221(d)(3) or 236 of the National Housing Act;
- (B) section 1 of the Housing and Urban Development Act of 1965;
- (C) section 8 of the United States Housing Act of 1937; or
- (D) sections 502(a), 504, 514, 515, 516 and 533 of the Housing Act of 1949.

(8) Federally owned housing. The term "federally owned housing" means residential dwellings owned or managed by a Federal agency, or for which a Federal agency is a trustee or conservator. For the purpose of this paragraph, the term "Federal agency" includes the Department of Housing and Urban Development, the Farmers Home Administration, the Resolution Trust Corporation, the Federal Deposit Insurance Corporation, the General Services Administration, the Department of Defense, the Department of Veterans Affairs, the Department of the Interior, the Department of Transportation, and any other Federal agency.

(9) Federally supported work. The term "federally supported work" means any lead hazard evaluation or reduction activities conducted in federally owned or assisted housing or funded in whole or in part through any financial assistance program of the Department of Housing and Urban Development, the Farmers Home Administration, or the Department of Veterans Affairs.

(10) Friction surface. The term "friction surface" means an interior or exterior surface that is subject to abrasion or friction, including certain window, floor, and stair surfaces.

(11) Impact surface. The term "impact surface" means an interior or exterior surface that is subject to damage by repeated impacts, for example, certain parts of door frames.

(12) Inspection. The term "inspection" means a surface-by-surface investigation to determine the presence of lead-based paint as provided in section 302(c) of the Lead-Based Paint Poisoning Prevention Act and the provision of a report explaining the results of the investigation.

(13) Interim controls. The term "interim controls" means a set of measures designed to reduce temporarily human exposure or likely exposure to lead-based paint hazards, including specialized cleaning, repairs, maintenance, painting, temporary containment, ongoing monitoring of lead-based paint hazards or potential hazards, and the establishment and operation of management and resident education programs.

(14) Lead-based paint. The term "lead-based paint" means paint or other surface coatings that contain lead in excess of limits established under section 302(c) of the Lead-Based Paint Poisoning Prevention Act.

(15) Lead-based paint hazard. The term "lead-based paint hazard" means any condition that causes exposure to lead from lead- contaminated dust, lead-contaminated soil, lead-contaminated paint that is deteriorated or present in accessible surfaces, friction surfaces, or impact surfaces that would result in adverse human health effects as established by the appropriate Federal agency.

(16) Lead-contaminated dust. The term "lead-contaminated dust" means surface dust in residential dwellings that contains an area or mass concentration of lead in excess of levels determined by the appropriate Federal agency to pose a threat of adverse health effects in pregnant women or young children.

(17) Lead-contaminated soil. The term "lead-contaminated soil" means bare soil on residential real property that contains lead at or in excess of the levels determined to be hazardous to human health by the appropriate Federal agency.

(18) Mortgage loan. The term "mortgage loan" includes any loan (other than temporary financing such as a construction loan) that --

(A) is secured by a first lien on any interest in residential real property; and

(B) either --

(i) is insured, guaranteed, made, or assisted by the Department of Housing and Urban Development, the Department of Veterans Affairs, or the Farmers Home Administration, or by any other agency of the Federal Government; or

(ii) is intended to be sold by each originating mortgage institution to any federally chartered secondary mortgage market institution.

(19) Originating mortgage institution. The term "originating mortgage institution" means a lender that provides mortgage loans.

(20) Priority housing. The term "priority housing" means target housing that qualifies as affordable housing under section 215 of the Cranston-Gonzalez National Affordable Housing Act 942 U.S.C. 12745), including housing that receives assistance under subsection (b) or (o) of section 8 of the United States Housing Act of 1937 (42 U.S.C. 1437f(b) or (o)).

(21) Public housing. The term "public housing" has the same meaning given the term in section 3(b) of the United States Housing Act of 1937 (42 U.S.C. 1437a(b)(1)).

(22) Reduction. The term "reduction" means measures designed to reduce or eliminate human exposure to lead-based paint hazards through methods including interim controls and abatement.

(23) Residential dwelling. The term "residential dwelling" means --

(A) a single-family dwelling, including attached structures such as porches and stoops; or

(B) a single-family dwelling unit in a structure that contains more than 1 separate

residential dwelling unit, and in which each such unit is used or occupied, or intended to be used or occupied, in whole or in part, as the home or residence of 1 or more persons.

(24) Residential real property. The term "residential real property" means real property on which there is situated 1 or more residential dwellings used or occupied, or intended to be used or occupied, in whole or in part, as the home or residence of 1 or more persons.

(25) Risk assessment. The term "risk assessment" means an on-site investigation to determine and report the existence, nature, severity and location of lead-based paint hazards in the residential dwellings, including --

- (A) information gathering regarding the age and history of the housing and occupancy by children under age 6;
- (B) visual inspection;
- (C) limited wipe sampling or other environmental sampling techniques;
- (D) other activity as may be appropriate; and
- (E) provision of a report explaining the results of the investigation.

(26) Secretary. The term "Secretary" means the Secretary of Housing and Urban Development.

(27) Target housing. The term "target housing" means any housing constructed prior to 1978, except housing for the elderly or persons with disabilities (unless any child who is less than 6 years of age resides or is expected to reside in such housing for the elderly or persons with disabilities) or any 0-bedroom dwelling. In the case of jurisdictions which banned the sale or use of lead-based paint prior to 1978, the Secretary, at the Secretary's discretion, may designate an earlier date.

SUBTITLE A -- LEAD-BASED PAINT HAZARD REDUCTION

SEC. 1011. GRANTS FOR LEAD-BASED PAINT HAZARD REDUCTION IN TARGET HOUSING.

(a) General Authority. The Secretary is authorized to provide grants to eligible applicants to evaluate and reduce lead-based paint hazards in housing that is not federally assisted housing, federally owned housing, or public housing, in accordance with the provisions of this section. Grants shall only be made under this section to provide assistance for housing which meets the following criteria--

(1) for grants made to assist rental housing, at least 50 percent of the units must be occupied by or made available to families with incomes at or below 50 percent of the area median income level and the remaining units shall be occupied or made available to families with incomes at or below 80 percent of the area median income level, and in all cases the landlord shall give priority in renting units assisted under this section, for not less than 3 years following the completion of lead abatement activities, to families with a child under the age of six years, except that buildings with five or more units may have 20 percent of the units occupied by families with incomes above 80 percent of area median income level;

(2) for grants made to assist housing owned by owner- occupants, all units assisted with grants under this section shall be the principal residence of families with income at or below 80 percent of the area median income level, and not less than 90 percent of the units assisted with grants under this section shall be occupied by a child under the age of six years or shall be units where a child under the age of six years spends a significant amount of time visiting; and

(3) notwithstanding paragraphs (1) and (2), Round II grantees who receive assistance under this section may use such assistance for priority housing.

(b) Eligible Applicants. A State or unit of local government that has an approved comprehensive housing affordability strategy under section 105 of the Cranston-Gonzalez National Affordable Housing Act (42 U.S.C. 12705) is eligible to apply for a grant under this section.

(c) Form of Applications. To receive a grant under this section, a State or unit of local government shall submit an application in such form and in such manner as the Secretary shall prescribe. An application shall contain --

(1) a copy of that portion of an applicant's comprehensive housing affordability strategy required by section 105(b)(16) of the Cranston-Gonzalez National Affordable Housing Act (42 U.S.C. 12701 et seq.);

(2) a description of the amount of assistance the applicant seeks under this section;

(3) a description of the planned activities to be undertaken with grants under this section, including an estimate of the amount to be allocated to each activity;

(4) a description of the forms of financial assistance to owners and occupants of housing that will be provided through grants under this section; and

(5) such assurances as the Secretary may require regarding the applicant's capacity to carry out the activities.

(d) Selection Criteria. The Secretary shall award grants under this section on the basis of the merit of the activities proposed to be carried out and on the basis of selection criteria, which shall include --

- (1) the extent to which the proposed activities will reduce the risk of lead-based paint poisoning to children under the age of 6 who reside in housing;
- (2) the degree of severity and extent of lead-based paint hazards in the jurisdiction to be served;
- (3) the ability of the applicant to leverage State, local, and private funds to supplement the grant under this section;
- (4) the ability of the applicant to carry out the proposed activities; and
- (5) such other factors as the Secretary determines appropriate to ensure that grants made available under this section are used effectively and to promote the purposes of this Act.

(e) Eligible Activities. A grant under this section may be used to --

- (1) perform risk assessments and inspections in housing;
- (2) provide for the interim control of lead-based paint hazards in housing;
- (3) provide for the abatement of lead-based paint hazards in housing;
- (4) provide for the additional cost of reducing lead-based paint hazards in units undergoing renovation funded by other sources;
- (5) ensure that risk assessments, inspections, and abatements are carried out by certified contractors in accordance with section 402 of the Toxic Substances Control Act, as added by section 1021 of this Act;
- (6) monitor the blood-lead levels of workers involved in lead hazard reduction activities funded under this section;
- (7) assist in the temporary relocation of families forced to vacate housing while lead hazard reduction measures are being conducted;
- (8) educate the public on the nature and causes of lead poisoning and measures to reduce the exposure to lead, including exposure due to residential lead-based paint hazards;
- (9) test soil, interior surface dust, and the blood-lead levels of children under the age of 6 residing in housing after lead-based paint hazard reduction activity has been conducted, to assure that such activity does not cause excessive exposures to lead; and
- (10) carry out such activities that the Secretary determines appropriate to promote the purposes of this Act.

(f) Forms of Assistance. The applicant may provide the services described in this section through a variety of programs, including grants, loans, equity investments, revolving loan funds, loan funds, loan guarantees, interest write-downs, and other forms of assistance approved by the Secretary.

(g) Technical Assistance and Capacity Building. --

- (1) In general. The Secretary shall develop the capacity of eligible applicants to carry out the requirements of section 105(b)(16) of the Cranston-Gonzalez National Affordable Housing Act and to carry out activities under this section. In fiscal years 1993 and 1994, the Secretary may make grants of up to \$ 200,000 for the purpose of establishing State training, certification or accreditation programs that meet the requirements of section 402 of the Toxic Substances Control Act, as added by section 1021 of this Act.

(2) Set-aside. Of the total amount approved in appropriation Acts under subsection (o), there shall be set aside to carry out this subsection \$ 3,000,000 for fiscal year 1993 and \$ 3,000,000 for fiscal year 1994.

(h) Matching Requirement. Each recipient of a grant under this section shall make contributions toward the cost of activities that receive assistance under this section in an amount not less than 10 percent of the total grant amount under this section.

(i) Prohibition of Substitution of Funds. Grants under this subtitle may not be used to replace other amounts made available or designated by State or local governments for use for the purposes under this subtitle.

(j) Limitation on Use. An applicant shall ensure that not more than 10 percent of the grant will be used for administrative expenses associated with the activities funded.

(k) Financial Records. An applicant shall maintain and provide the Secretary with financial records sufficient, in the determination of the Secretary, to ensure proper accounting and disbursing of amounts received from a grant under this section.

(l) Report. An applicant under this section shall submit to the Secretary, for any fiscal year in which the applicant expends grant funds under this section, a report that --

- (1) describes the use of the amounts received;
- (2) states the number of risk assessments and the number of inspections conducted in residential dwellings;
- (3) states the number of residential dwellings in which lead- based paint hazards have been reduced through interim controls;
- (4) states the number of residential dwellings in which lead- based paint hazards have been abated; and
- (5) provides any other information that the Secretary determines to be appropriate.

(m) Notice of Funding Availability. The Secretary shall publish a Notice of Funding Availability pursuant to this section not later than 120 days after funds are appropriated for this section.

(n) Relationship to Other Law. Effective 2 years after the date of promulgation of regulations under section 402 of the Toxic Substances Control Act, no grants for lead-based paint hazard evaluation or reduction may be awarded to a State under this section unless such State has an authorized program under section 404 of the Toxic Substances Control Act.

(o) Environmental review.

(1) In general. For purposes of environmental review, decisionmaking, and action pursuant to the National Environmental Policy Act of 1969 [42 USC §§ 4321 et seq.] and other provisions of law that further the purposes of such Act, a grant under this section shall be treated as assistance under the HOME Investment Partnership Act, established under title II of the Cranston-Gonzalez National Affordable Housing Act, and shall be subject to the regulations promulgated by the Secretary to implement section 288 of such Act [42 USC § 12838].

(2) Applicability. This subsection shall apply to--

(A) grants awarded under this section; and

(B) grants awarded to States and units of general local government for the abatement of significant lead-based paint and lead dust hazards in low- and moderate-income owner-occupied units and low-income privately owned rental units pursuant to title II of the Departments of Veterans Affairs and Housing and Urban Development, and Independent Agencies Appropriations Act, 1992 (Public Law 102-139, 105 Stat. 736).

(p) Authorization of appropriations. For the purposes of carrying out this chapter, there are authorized to be appropriated \$125,000,000 for fiscal year 1993 and \$250,000,000 for fiscal year 1994.

#### SEC. 1012. EVALUATION AND REDUCTION OF LEAD-BASED PAINT HAZARDS IN FEDERALLY ASSISTED HOUSING.

(a) General Requirements. Section 302 of the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4822) is amended --

(1) by striking the title of the section and inserting:

"REQUIREMENTS FOR HOUSING RECEIVING FEDERAL ASSISTANCE";

(2) in the first sentence of subsection (a) --

(A) by striking "The Secretary" and inserting the following:

"(1) Elimination of hazards. The Secretary"; and

(B) by inserting before the period "or otherwise receives more than \$ 5,000 in project-based assistance under a Federal housing program";

(3) by striking the second sentence of subsection (a) and inserting: "Beginning on January 1, 1995, such procedures shall apply to all such housing that constitutes target housing, as defined in section 1004 of the Residential Lead-Based Paint Hazard Reduction Act of 1992, and shall provide for appropriate measures to conduct risk assessments, inspections, interim controls, and abatement of lead- based paint hazards. At a minimum, such procedures shall require --

"(A) the provision of lead hazard information pamphlets, developed pursuant to section 406 of the Toxic Substances Control Act, to purchasers and tenants;

"(B) periodic risk assessments and interim controls in accordance with a schedule determined by the Secretary, the initial risk assessment of each unit constructed prior to 1960 to be conducted not later than January 1, 1996, and for units constructed between 1960 and 1978 --

"(i) not less than 25 percent shall be performed by January 1, 1998;

"(ii) not less than 50 percent shall be performed by January 1, 2000; and

"(iii) the remainder shall be performed by January 1, 2002;

"(C) inspection for the presence of lead-based paint prior to federally-funded renovation or rehabilitation that is likely to disturb painted surfaces;

"(D) reduction of lead-based paint hazards in the course of rehabilitation projects receiving less than \$ 25,000 per unit in Federal funds;

"(E) abatement of lead-based paint hazards in the course of substantial rehabilitation projects receiving more than \$ 25,000 per unit in Federal funds;

"(F) where risk assessment, inspection, or reduction activities have been undertaken, the



provision of notice to occupants describing the nature and scope of such activities and the actual risk assessment or inspection reports (including available information on the location of any remaining lead-based paint on a surface-by-surface basis); and

"(G) such other measures as the Secretary deems appropriate."; and

(4) in the third sentence, by striking "The Secretary may" and inserting the following:

"(2) Additional measures. The Secretary may".

(b) Measurement Criteria. Section 302(b) of the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4822(b)) is amended by striking "for the detection" and all that follows through the end of paragraph (2) and inserting "for the risk assessment, interim control, inspection, and abatement of lead-based paint hazards in housing covered by this section shall be based upon guidelines developed pursuant to section 1017 of the Residential Lead-Based Paint Hazard Reduction Act of 1992.".

(c) Inspection. Section 302(c) of the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4822(c)) is amended --

(1) in the second sentence, by striking "qualified" and inserting "certified"; and

(2) in the third and fourth sentences, by inserting "or 0.5 percent by weight" after "squared".

(d) Public Housing. Section 302(d)(1) of the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4822(d)(1)) is amended --

(1) in the heading, by striking "CIAP" and inserting "modernization"; and

(2) in the fourth sentence, by striking "to eliminate the lead-based paint poisoning hazards" and inserting "of lead-based paint and lead-based paint hazards".

(e) HOME Investment Partnerships. Section 212(a) of the Cranston-Gonzalez National Affordable Housing Act (42 U.S.C. 12742(a)) is amended by adding at the end the following new paragraph:

"(5) Lead-based paint hazards. A participating jurisdiction may use funds provided under this subtitle for the evaluation and reduction of lead-based paint hazards, as defined in section 1004 of the Residential Lead-Based Paint Hazard Reduction Act of 1992.".

(f) Community Development Block Grants. Section 105(a) of the Housing and Community Development Act of 1974 (42 U.S.C. 5305(a)) is amended --

(1) in paragraph (19), by striking "and" at the end;

(2) in paragraph (20), by striking the period at the end and inserting "; and"; and

(3) by adding at the end the following new paragraph:

"(21) lead-based paint hazard evaluation and reduction, as defined in section 1004 of the Residential Lead-Based Paint Hazard Reduction Act of 1992.".

(g) Section 8 Rental Assistance. Section 8(c)(2)(B) of the United States Housing Act of 1937 (42 U.S.C. 1437f(c)(2)(B)) is amended by adding at the end the following: "The Secretary may (at the discretion of the Secretary and subject to the availability of appropriations for contract amendments), on a project by project basis for projects receiving project-based assistance, provide adjustments to the maximum monthly rents to cover the costs of evaluating and reducing lead-based paint hazards, as defined in section 1004 of the Residential Lead-Based Paint Hazard

Reduction Act of 1992."

(h) HOPE for public and Indian Housing Homeownership. The United States Housing Act of 1937 (42 U.S.C. 1437 et seq.) is amended --

(1) in section 302(b) --

(A) by redesignating paragraphs (4) through (8) as paragraphs (5) through (9), respectively; and

(B) by inserting after paragraph (3) the following:

"(4) inspection for lead-based paint hazards, as required by section 302(a) of the Lead-Based Paint Poisoning Prevention Act;"; and

(2) in section 303(b) --

(A) by redesignating paragraphs (4) through (13) as paragraphs (5) through (14), respectively; and

(B) by inserting after paragraph (3) the following:

"(4) Abatement of lead-based paint hazards, as required by section 302(a) of the Lead-Based Paint Poisoning Prevention Act."

(i) HOPE for Homeownership of Multifamily Units. The Cranston- Gonzalez National Affordable Housing Act (42 U.S.C. 12701 et seq.) is amended --

(1) in section 422(b) --

(A) by redesignating paragraphs (4) through (8) as paragraphs (5) through (9), respectively; and

(B) by inserting after paragraph (3) the following:

"(4) inspection for lead-based paint hazards, as required by section 302(a) of the Lead-Based Paint Poisoning Prevention Act;"; and

(2) in section 423(b) --

(A) by redesignating paragraphs (4) through (13) as paragraphs (5) through (14), respectively; and

(B) by adding after paragraph (3) the following:

"(4) Abatement of lead-based paint hazards, as required by section 302(a) of the Lead-Based Paint Poisoning Prevention Act."

(j) HOPE for Homeownership of Multifamily Units. The Cranston- Gonzalez National Affordable Housing Act (42 U.S.C. 12701 et seq.) is amended --

(1) in section 422(b) --

(A) by redesignating paragraphs (4) through (8) as paragraphs (5) through (9), respectively; and

(B) by inserting after paragraph (3) the following:

"(4) inspection for lead-based paint hazards, as required by section 302(a) of the Lead-Based Paint Poisoning Prevention Act;"; and

(2) in section 443(b) --

(A) by redesignating paragraphs (4) through (10) as paragraphs (5) through (11), respectively; and

(B) by adding after paragraph (3) the following:

"(4) Abatement of lead-based paint hazards, as required by section 302(a) of the Lead-Based Paint Poisoning Prevention Act."

(k) FHA Insurance for Single Family Homes. --

(1) Home improvement loans. Section 2(a) of the National Housing Act (12 U.S.C. 1703(a)) is amended in the fifth paragraph--

(A) by inserting after the first sentence the following:

"Alterations, repairs, and improvements upon or in connection with existing structures may also include the evaluation and reduction of lead-based paint hazards."; and

(B) by adding at the end the following: "(4) the terms 'evaluation', 'reduction', and 'lead-based paint hazard' have the same meanings given those terms in section 1004 of the Residential Lead-Based Paint Hazard Reduction Act of 1992.".

(2) Rehabilitation loans. Section 203(k)(2)(B) of the National Housing Act (12 U.S.C. 1709(k)(2)(B)) is amended by adding at the end the following: "The term 'rehabilitation' may also include measures to evaluate and reduce lead-based paint hazards, as such terms are defined in section 1004 of the Residential Lead-Based Paint Hazard Reduction Act of 1992.".

(l) FHA Insurance for Multifamily Housing. Section 221(d)(4)(iv) of the National Housing Act (12 U.S.C. 1715l(d)(4)(iv)) is amended by inserting after "rehabilitation" the first time it appears the following: "(including the cost of evaluating and reducing lead-based paint hazards, as such terms are defined in section 1004 of the Residential Lead-Based Paint Hazard Reduction Act of 1992)".

(m) Rural Housing. Section 501(a) of the Housing Act of 1949 (42 U.S.C. 1471) is amended by adding at the end the following:

"(5) Definitions. For purposes of this title, the terms 'repair', 'repairs', 'rehabilitate', and 'rehabilitation' include measures to evaluate and reduce lead-based paint hazards as such terms are defined in section 1004 of the Residential Lead-Based Paint Hazard Reduction Act of 1992.".

## SEC. 1013. DISPOSITION OF FEDERALLY OWNED HOUSING.

Section 302(a) of the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4822(a)) (as amended by section 1012(a)) is amended by striking the fourth sentence and adding at the end the following: "(3) Disposition of federally owned housing. --

"(A) Pre-1960 target housing. Beginning on January 1, 1995, procedures established under paragraphs (1) and (2) shall require the inspection and abatement of lead-based paint hazards in all federally owned target housing constructed prior to 1960.

"(B) Target housing constructed between 1960 and 1978. Beginning on January 1, 1995, procedures established under paragraphs (1) and (2) shall require an inspection for lead-based paint and lead-based paint hazards in all federally owned target housing constructed between 1960 and 1978. The results of such inspections shall be made available to prospective purchasers, identifying the presence of lead-based paint and lead-based paint hazards on a surface-by-surface basis. The Secretary shall have the discretion to waive the requirement of this subparagraph for housing in which a federally funded risk assessment, performed by a certified contractor, has determined no lead-based paint hazards are present.

"(C) Budget authority. To the extent that subparagraphs (A) and (B) increase the cost to

the Government of outstanding direct loan obligations or loan guarantee commitments, such activities shall be treated as modifications under section 504(e) of the Federal Credit Reform Act of 1990 and shall be subject to the availability of appropriations. To the extent that paragraphs (A) and (B) impose additional costs to the Resolution Trust Corporation and the Federal Deposit Insurance Corporation, its requirements shall be carried out only if appropriations are provided in advance in an appropriations Act. In the absence of appropriations sufficient to cover the costs of subparagraphs (A) and (B), these requirements shall not apply to the affected agency or agencies.

"(D) Definitions. For the purposes of this subsection, the terms 'inspection', 'abatement', 'lead-based paint hazard', 'federally owned housing', 'target housing', 'risk assessment', and 'certified contractor' have the same meaning given such terms in section 1004 of the Residential Lead-Based Paint Hazard Reduction Act of 1992.

"(4) Definitions. For purposes of this subsection, the terms 'risk assessment', 'inspection', 'interim control', 'abatement', 'reduction', and 'lead-based paint hazard' have the same meaning given such terms in section 1004 of the Residential Lead-Based Paint Hazard Reduction Act of 1992.

#### SEC. 1014. COMPREHENSIVE HOUSING AFFORDABILITY STRATEGY.

Section 105 of the Cranston-Gonzalez National Affordable Housing Act (42 U.S.C. 12705) is amended --

(1) in subsection (b)(14), by striking "and" at the end;

(2) in subsection (b)(15), by striking the period at the end and inserting "; and";

(3) by inserting after paragraph (15) of subsection (b) the following new paragraph:

"(16) estimate the number of housing units within the jurisdiction that are occupied by low-income families or very low-income families and that contain lead-based paint hazards, as defined in section 1004 of the Residential Lead-Based Paint Hazard Reduction Act of 1992, outline the actions proposed or being taken to evaluate and reduce lead-based paint hazards, and describe how lead-based paint hazard reduction will be integrated into housing policies and programs."; and

(4) in subsection (e) --

(A) by striking "When preparing" and inserting the following:

"(1) In general. When preparing"; and

(B) by adding at the end the following new paragraph: "(2) Lead-based paint hazards. When preparing that portion of a housing strategy required by subsection (b)(16), a jurisdiction shall consult with State or local health and child welfare agencies and examine existing data related to lead-based paint hazards and poisonings, including health department data on the addresses of housing units in which children have been identified as lead poisoned."

#### SEC. 1015. TASK FORCE ON LEAD-BASED PAINT HAZARD REDUCTION AND FINANCING.

(a) In General. The Secretary, in consultation with the Administrator of the Environmental Protection Agency establish a task force to make recommendations on expanding resources and efforts to evaluate and reduce lead-based paint hazards in private housing.

(b) Membership. The task force shall include individuals representing the Department of Housing and Urban Development, the Farmers Home Administration, the Department of Veterans Affairs, the Federal Home Loan Mortgage Corporation, the Federal National Mortgage Association, the Environmental Protection Agency, employee organizations in the building and construction trades industry, landlords, tenants, primary lending institutions, private mortgage insurers, single-family and multifamily real estate interests, nonprofit housing developers, property liability insurers, public housing agencies, low-income housing advocacy organizations, national, State and local lead-poisoning prevention advocates and experts, and community-based organizations located in areas with substantial rental housing.

(c) Responsibilities. The task force shall make recommendations to the Secretary and the Administrator of the Environmental Protection Agency concerning --

(1) incorporating the need to finance lead-based paint hazard reduction into underwriting standards;

(2) developing new loan products and procedures for financing lead-based paint hazard evaluation and reduction activities;

(3) adjusting appraisal guidelines to address lead safety;

(4) incorporating risk assessments or inspections for lead-based paint as a routine procedure in the origination of new residential mortgages;

(5) revising guidelines, regulations, and educational pamphlets issued by the Department of Housing and Urban Development and other Federal agencies relating to lead-based paint poisoning prevention;

(6) reducing the current uncertainties of liability related to lead-based paint in rental housing by clarifying standards of care for landlords and lenders, and by exploring the "safe harbor" concept;

(7) increasing the availability of liability insurance for owners of rental housing and certified contractors and establishing alternative systems to compensate victims of lead-based paint poisoning; and

(8) evaluating the utility and appropriateness of requiring risk assessments or inspections and notification to prospective lessees of rental housing.

(d) Compensation. The members of the task force shall not receive Federal compensation for their participation.

## SEC. 1016. NATIONAL CONSULTATION ON LEAD-BASED PAINT HAZARD REDUCTION.

In carrying out this Act, the Secretary shall consult on an ongoing basis with the Administrator of the Environmental Protection Agency, the Director of the Centers for Disease Control, other Federal agencies concerned with lead poisoning prevention, and the task force established pursuant to section 1015.

**SEC. 1017. GUIDELINES FOR LEAD-BASED PAINT HAZARD EVALUATION AND REDUCTION ACTIVITIES.**

Not later than 12 months after the date of enactment of this Act, the Secretary, in consultation with the Administrator of the Environmental Protection Agency, the Secretary of Labor, and the Secretary of Health and Human Services (acting through the Director of the Centers for Disease Control), shall issue guidelines for the conduct of all federally supported work involving risk assessments, inspections, interim controls, and abatement of lead-based paint hazards. Such guidelines shall be based upon criteria that measure the condition of the housing (and the presence of children under age 6 for the purposes of risk assessments) and shall not be based upon criteria that measure the health of the residents of the housing.

**SEC. 1018. DISCLOSURE OF INFORMATION CONCERNING LEAD UPON TRANSFER OF RESIDENTIAL PROPERTY.**

(a) Lead Disclosure in Purchase and Sale or Lease of Target Housing. --

(1) Lead-based paint hazards. Not later than 2 years after the date of enactment of this Act, the Secretary and the Administrator of the Environmental Protection Agency shall promulgate regulations under this section for the disclosure of lead-based paint hazards in target housing which is offered for sale or lease. The regulations shall require that, before the purchaser or lessee is obligated under any contract to purchase or lease the housing, the seller or lessor shall --

(A) provide the purchaser or lessee with a lead hazard information pamphlet, as prescribed by the Administrator of the Environmental Protection Agency under section 406 of the Toxic Substances Control Act;

(B) disclose to the purchaser or lessee the presence of any known lead-based paint, or any known lead-based paint hazards, in such housing and provide to the purchaser or lessee any lead hazard evaluation report available to the seller or lessor; and

(C) permit the purchaser a 10-day period (unless the parties mutually agree upon a different period of time) to conduct a risk assessment or inspection for the presence of lead-based paint hazards.

(2) Contract for purchase and sale. Regulations promulgated under this section shall provide that every contract or the purchase and sale of any interest in target housing shall contain a Lead Warning Statement and a statement signed by the purchaser that the purchaser has --

(A) read the Lead Warning Statement and understands its contents;

(B) received a lead hazard information pamphlet; and

(C) had a 10-day opportunity (unless the parties mutually agreed upon a different period of time) before becoming obligated under the contract to purchase the housing to conduct a risk assessment or inspection for the presence of lead-based paint hazards.

(3) Contents of lead warning statement. The Lead Warning Statement shall contain the following text printed in large type on a separate sheet of paper attached to the contract:

"Every purchaser of any interest in residential real property on which a residential

dwelling was built prior to 1978 is notified that such property may present exposure to lead from lead-based paint that may place young children at risk of developing lead poisoning. Lead poisoning in young children may produce permanent neurological damage, including learning disabilities, reduced intelligence quotient, behavioral problems, and impaired memory. Lead poisoning also poses a particular risk to pregnant women. The seller of any interest in residential real property is required to provide the buyer with any information on lead-based paint hazards from risk assessments or inspections in the seller's possession and notify the buyer of any known lead-based paint hazards. A risk assessment or inspection for possible lead-based paint hazards is recommended prior to purchase."

(4) Compliance Assurance. Whenever a seller or lessor has entered into a contract with an agent for the purpose of selling or leasing a unit of target housing, the regulations promulgated under this section shall require the agent, on behalf of the seller or lessor, to ensure compliance with the requirements of this section.

(5) Promulgation. A suit may be brought against the Secretary of Housing and Urban Development and the Administrator of the Environmental Protection Agency under section 20 of the Toxic Substances Control Act to compel promulgation of the regulations required under this section and the Federal district court shall have jurisdiction to order such promulgation.

(b) Penalties for Violations. --

(1) Monetary penalty. Any person who knowingly violates any provision of this section shall be subject to civil money penalties in accordance with the provisions of section 102 of the Department of Housing and Urban Development Reform Act of 1989 (42 U.S.C. 3545).

(2) Action by secretary. The Secretary is authorized to take such lawful action as may be necessary to enjoin any violation of this section.

(3) Civil liability. Any person who knowingly violates the provisions of this section shall be jointly and severally liable to the purchaser or lessee in an amount equal to 3 times the amount of damages incurred by such individual.

(4) Costs. In any civil action brought for damages pursuant to paragraph (3), the appropriate court may award court costs to the party commencing such action, together with reasonable attorney fees and any expert witness fees, if that party prevails.

(5) Prohibited act. It shall be a prohibited act under section 409 of the Toxic Substances Control Act for any person to fail or refuse to comply with a provision of this section or with any rule or order issued under this section. For purposes of enforcing this section under the Toxic Substances Control Act, the penalty for each violation applicable under section 16 of that Act shall not be more than \$10,000.

(c) Validity of Contracts and Liens. Nothing in this section shall affect the validity or enforceability of any sale or contract for the purchase and sale or lease of any interest in residential real property or any loan, loan agreement, mortgage, or lien made or arising in connection with a mortgage loan, nor shall anything in this section create a defect in title.

(d) Effective Date. The regulations under this section shall take effect 3 years after the date of the enactment of this title.

## SUBTITLE B -- LEAD EXPOSURE REDUCTION

### SEC. 1021. CONTRACTOR TRAINING AND CERTIFICATION.

(a) Amendment to the Toxic Substances Control Act. The Toxic Substances Control Act (15 U.S.C. 2601 et seq.) is amended by adding after title III the following new title:

#### "TITLE IV -- LEAD EXPOSURE REDUCTION

##### "SEC. 401. DEFINITIONS.

"For the purposes of this title:

"(1) Abatement. The term 'abatement' means any set of measures designed to permanently eliminate lead-based paint hazards in accordance with standards established by the Administrator under this title. Such term includes --

"(A) the removal of lead-based paint and lead-contaminated dust, the permanent containment or encapsulation of lead-based paint, the replacement of lead-painted surfaces or fixtures, and the removal or covering of lead-contaminated soil; and

"(B) all preparation, cleanup, disposal, and postabatement clearance testing activities associated with such measures.

"(2) Accessible surface. The term 'accessible surface' means an interior or exterior surface painted with lead-based paint that is accessible for a young child to mouth or chew.

"(3) Deteriorated paint. The term 'deteriorated paint' means any interior or exterior paint that is peeling, chipping, chalking or cracking or any paint located on an interior or exterior surface or fixture that is damaged or deteriorated.

"(4) Evaluation. The term 'evaluation' means risk assessment, inspection, or risk assessment and inspection.

"(5) Friction surface. The term 'friction surface' means an interior or exterior surface that is subject to abrasion or friction, including certain window, floor, and stair surfaces.

"(6) Impact surface. The term 'impact surface' means an interior or exterior surface that is subject to damage by repeated impacts, for example, certain parts of door frames.

"(7) Inspection. The term 'inspection' means

"(A) a surface-by-surface investigation to determine the presence of lead-based paint, as provided in section 302(c) of the Lead-Based Paint Poisoning Prevention Act, and

"(B) the provision of a report explaining the results of the investigation.

"(8) Interim controls. The term 'interim controls' means a set of measures designed to reduce temporarily human exposure or likely exposure to lead-based paint hazards, including specialized cleaning, repairs, maintenance, painting, temporary containment, ongoing monitoring of lead-based paint hazards or potential hazards, and the establishment an operation of management and resident education programs.

"(9) Lead-based paint. The term 'lead-based paint' means paint or other surface coatings that contain lead in excess of 1.0 milligrams per centimeter squared or 0.5 percent by weight or

"(A) in the case of paint or other surface coatings on target housing, such lower level as may



be established by the Secretary of Housing and Urban Development, as defined in section 302(c) of the Lead-Based Paint Poisoning Prevention Act, or

"(B) in the case of any other paint or surface coatings, such other level as may be established by the Administrator.

"(10) Lead-based paint hazard. The term 'lead-based paint hazard' means any condition that causes exposure to lead from lead-contaminated dust, lead-contaminated soil, lead-contaminated paint that is deteriorated or present in accessible surfaces, friction surfaces, or impact surfaces that would result in adverse human health effects as established by the Administrator under this title.

"(11) Lead-contaminated dust. The term 'lead-contaminated dust' means surface dust in residential dwellings that contains an area or mass concentration of lead in excess of levels determined by the Administrator under this title to pose a threat of adverse health effects in pregnant women or young children.

"(12) Lead-contaminated soil. The term 'lead-contaminated soil' means bare soil on residential real property that contains lead at or in excess of the levels determined to be hazardous to human health by the Administrator under this title.

"(13) Reduction. The term 'reduction' means measures designed to reduce or eliminate human exposure to lead-based paint hazards through methods including interim controls and abatement.

"(14) Residential dwelling. The term 'residential dwelling' means--

"(A) a single-family dwelling, including attached structures such as porches and stoops; or

"(B) a single-family dwelling unit in a structure that contains more than 1 separate residential dwelling unit, and in which each such unit is used or occupied, or intended to be used or occupied, in whole or in part, as the home or residence of 1 or more persons.

"(15) Residential real property. The term 'residential real property' means real property on which there is situated 1 or more residential dwellings used or occupied, or intended to be used or occupied, in whole or in part, as the home or residence of 1 or more persons.

"(16) Risk assessment. The term 'risk assessment' means an on-site investigation to determine and report the existence, nature, severity and location of lead-based paint hazards in residential dwellings, including --

"(A) information gathering regarding the age and history of the housing and occupancy by children under age 6;

"(B) visual inspection;

"(C) limited wipe sampling or other environmental sampling techniques;

"(D) other activity as may be appropriate; and

"(E) provision of a report explaining the results of the investigation.

"(17) Target housing. The term 'target housing' means any housing constructed prior to 1978, except housing for the elderly or persons with disabilities (unless any child who is less than 6 years of age resides or is expected to reside in such housing for the elderly or persons with disabilities) or any 0-bedroom dwelling. In the case of jurisdictions which banned the sale or use of lead-based paint prior to 1978, the Secretary of Housing and Urban Development, at the Secretary's discretion, may designate an earlier date.

## "SEC. 402. LEAD-BASED PAINT ACTIVITIES TRAINING AND CERTIFICATION.

"(a) Regulations. --

"(1) In general. Not later than 18 months after the date of the enactment of this section, the Administrator shall, in consultation with the Secretary of Labor, the Secretary of Housing and Urban Development, and the Secretary of Health and Human Services (acting through the Director of the National Institute for Occupational Safety and Health), promulgate final regulations governing lead-based paint activities to ensure that individuals engaged in such activities are properly trained; that training programs are accredited; and that contractors engaged in such activities are certified. Such regulations shall contain standards for performing lead-based paint activities, taking into account reliability, effectiveness, and safety. Such regulations shall require that all risk assessment, inspection, and abatement activities performed in target housing shall be performed by certified contractors, as such term is defined in section 1004 of the Residential Lead-Based Paint Hazard Reduction Act of 1992. The provisions of this section shall supersede the provisions set forth under the heading 'Lead Abatement Training and Certification' and under the heading 'Training Grants' in title III of the Act entitled 'An Act making appropriations for the Departments of Veterans Affairs and Housing and Urban Development, and for sundry independent agencies, commissions, corporations, and offices for the fiscal year ending September 30, 1992, and for other purposes', Public Law 102-139, and upon the enactment of this section the provisions set forth in such public law under such headings shall cease to have any force and effect.

"(2) Accreditation of training programs. Final regulations promulgated under (1) shall contain specific requirements for the accreditation of lead-based paint activities training programs for workers, supervisors, inspectors and planners, and other individuals involved in lead-based paint activities, including, but not limited to, each of the following:

"(A) Minimum requirements for the accreditation of training providers.

"(B) Minimum training curriculum requirements.

"(C) Minimum training hour requirements.

"(D) Minimum hands-on training requirements.

"(E) Minimum trainee competency and proficiency requirements.

"(F) Minimum requirements for training program quality control.

"(3) Accreditation and certification fees. The Administrator (or the State in the case of an authorized State program) shall impose a fee on --

"(A) persons operating training programs accredited under this title; and

"(B) lead-based paint activities contractors certified in accordance with paragraph (1).

The fees shall be established at such level as is necessary to cover the costs of administering and enforcing the standards and regulations under this section which are applicable to such programs and contractors. The fee shall not be imposed on any State, local government, or nonprofit training program. The Administrator (or the State in the case of an authorized State program) may waive the fee for lead-based paint activities contractors under subparagraph (A) for the purpose of training their own employees.

"(b) Lead-Based Paint Activities. For purposes of this title, the term 'lead-based paint activities' means --

"(1) in the case of target housing, risk assessment, inspection, and abatement; and

"(2) in the case of any public building constructed before 1978, commercial building, bridge, or other structure or super-structure, identification of lead-based paint and materials containing lead-based paint, deleading, removal of lead from bridges, and demolition.

For purposes of paragraph (2), the term 'deleading' means activities conducted by a person who offers to eliminate lead-based paint or lead-based paint hazards or to plan such activities.

"(c) Renovation and Remodeling. --

"(1) Guidelines. In order to reduce the risk of exposure to lead in connection with renovation and remodeling of target housing, public buildings constructed before 1978, and commercial buildings, the Administrator shall, within 18 months after the enactment of this section, promulgate guidelines for the conduct of such renovation and remodeling activities which may create a risk of exposure to dangerous levels of lead. The Administrator shall disseminate such guidelines to persons engaged in such renovation and remodeling through hardware and paint stores, employee organizations, trade groups, State and local agencies, and through other appropriate means.

"(2) Study of certification. The Administrator shall conduct a study of the extent to which persons engaged in various types of renovation and remodeling activities in target housing, public buildings constructed before 1978, and commercial buildings are exposed to lead in the conduct of such activities or disturb lead and create a lead-based paint hazard on a regular or occasional basis. The Administrator shall complete such study and publish the results thereof within 30 months after the enactment of this section.

"(3) Certification determination. Within 4 years after the enactment of this section, the Administrator shall revise the regulations under subsection (a) to apply the regulations to renovation or remodeling activities in target housing, public buildings constructed before 1978, and commercial buildings that create lead-based paint hazards. In determining which contractors are engaged in such activities, the Administrator shall utilize the results of the study under paragraph (2) and consult with the representatives of labor organizations, lead-based paint activities contractors, persons engaged in remodeling and renovation, experts in lead health effects, and others. If the Administrator determines that an category of contractors engaged in renovation or remodeling does not require certification, the Administrator shall publish an explanation of the basis for that determination.

#### "SEC. 403. IDENTIFICATION OF DANGEROUS LEVELS OF LEAD.

"Within 18 months after the enactment of this title, the Administrator shall promulgate regulations which shall identify, for purposes of this title, and the Residential Lead-Based Paint Hazard Reduction Act of 1992, lead-based paint hazards, lead-contaminated dust, and lead-contaminated soil.

#### "SEC. 404. AUTHORIZED STATE PROGRAMS.

"(a) Approval. Any State which seeks to administer and enforce the standards, regulations, or other requirements established under section 402 or 406, or both, may, after notice and opportunity for public hearing, develop and submit to the Administrator an application, in such form as the Administrator shall require, for authorization of such a State program. Any such State may also certify to the Administrator at the time of submitting such program that the State program meets the requirements of paragraphs (1) and (2) of subsection (b). Upon submission of

such certification, the State program shall be deemed to be authorized under this section, and shall apply in such State in lieu of the corresponding Federal program under section 402 or 406, or both, as the case may be, until such time as the Administrator disapproves the program or withdraws the authorization.

"(b) Approval or Disapproval. Within 180 days following submission of an application under subsection (a), the Administrator shall approve or disapprove the application. The Administrator may approve the application only if, after notice and after opportunity for public hearing, the Administrator finds that --

"(1) the State program is at least as protective of human health and the environment as the Federal program under section 402 or 406, or both, as the case may be, and

"(2) such State program provides adequate enforcement.

Upon authorization of a State program under this section, it shall be unlawful for any person to violate or fail or refuse to comply with any requirement of such program.

"(c) Withdrawal of Authorization. If a State is not administering and enforcing a program authorized under this section in compliance with standards, regulations, and other requirements of this title, the Administrator shall so notify the State and, if corrective action is not completed within a reasonable time, not to exceed 180 days, the Administrator shall withdraw authorization of such program and establish a Federal program pursuant to this title.

"(d) Model State Program. Within 18 months after the enactment of this title, the Administrator shall promulgate a model State program which may be adopted by any State which seeks to administer and enforce a State program under this title. Such model program shall, to the extent practicable, encourage States to utilize existing State and local certification and accreditation programs and procedures. Such program shall encourage reciprocity among the States with respect to the certification under section 402.

"(e) Other State Requirements. Nothing in this title shall be construed to prohibit any State or political subdivision thereof from imposing any requirements which are more stringent than those imposed by this title.

"(f) State and Local Certification. The regulations under this title shall, to the extent appropriate, encourage States to seek program authorization and to use existing State and local certification and accreditation procedures, except that a State or local government shall not require more than 1 certification under this section for any lead-based paint activities contractor to carry out lead-based paint activities in the State or political subdivision thereof.

"(g) Grants to States. The Administrator is authorized to make grants to States to develop and carry out authorized State programs under this section. The grants shall be subject to such terms and conditions as the Administrator may establish to further the purposes of this title.

"(h) Enforcement by Administrator. If a State does not have a State program authorized under this section and in effect by the date which is 2 years after promulgation of the regulations under section 402 or 406, the Administrator shall, by such date, establish a Federal program for section

402 or 406 (as the case may be) for such State and administer and enforce such program in such State.

"SEC. 405. LEAD ABATEMENT AND MEASUREMENT.

"(a) Program To Promote Lead Exposure Abatement. The Administrator, in cooperation with other appropriate Federal departments and agencies, shall conduct a comprehensive program to promote safe, effective, and affordable monitoring, detection, and abatement of lead-based paint and other lead exposure hazards.

"(b) Standards for Environmental Sampling Laboratories. (1) The Administrator shall establish protocols, criteria, and minimum performance standards for laboratory analysis of lead in paint films, soil, and dust. Within 2 years after the enactment of this title, the Administrator, in consultation with the Secretary of Health and Human Services, shall establish a program to certify laboratories as qualified to test substances for lead content unless the Administrator determines, by the date specified in this paragraph, that effective voluntary accreditation programs are in place and operating on a nationwide basis at the time of such determination. To be certified under such program, a laboratory shall, at a minimum, demonstrate an ability to test substances accurately for lead content.

"(2) Not later than 24 months after the date of the enactment of this section, and annually thereafter, the Administrator shall publish and make available to the public a list of certified or accredited environmental sampling laboratories.

"(3) If the Administrator determines under paragraph (1) that effective voluntary accreditation programs are in place for environmental sampling laboratories, the Administrator shall review the performance and effectiveness of such programs within 3 years after such determination. If, upon such review, the Administrator determines that the voluntary accreditation programs are not effective in assuring the quality and consistency of laboratory analyses, the Administrator shall, not more than 12 months thereafter, establish a certification program that meets the requirements of paragraph (1).

"(c) Exposure Studies.

(1) The Secretary of Health and Human Services (hereafter in this subsection referred to as the 'Secretary'), acting through the Director of the Centers for Disease Control, (CDC), and the Director of the National Institute of Environmental Health Sciences, shall jointly conduct a study of the sources of lead exposure in children who have elevated blood lead levels (or other indicators of elevated lead body burden), as defined by the Director of the Centers for Disease Control.

"(2) The Secretary, in consultation with the Director of the National Institute for Occupational Safety and Health, shall conduct a comprehensive study of means to reduce hazardous occupational lead abatement exposures. This study shall include, at a minimum, each of the following --

"(A) Surveillance and intervention capability in the States to identify and prevent hazardous exposures to lead abatement workers.

"(B) Demonstration of lead abatement control methods and devices and work practices to identify and prevent hazardous lead exposures in the workplace.

"(C) Evaluation, in consultation with the National Institute of Environmental Health

Sciences, of health effects of low and high levels of occupational lead exposures on reproductive, neurological, renal, and cardiovascular health.

"(D) Identification of high risk occupational settings to which prevention activities and resources should be targeted.

"(E) A study assessing the potential exposures and risks from lead to janitorial and custodial workers.

"(3) The studies described in paragraphs (1) and (2) shall, as appropriate, examine the relative contributions to elevated lead body burden from each of the following:

"(A) Drinking water.

"(B) Food.

"(C) Lead-based paint and dust from lead-based paint.

"(D) Exterior sources such as ambient air and lead in soil.

"(E) Occupational exposures, and other exposures that the Secretary determines to be appropriate.

"(4) Not later than 30 months after the date of the enactment of this section, the Secretary shall submit a report to the Congress concerning the studies described in paragraphs (1) and (2).

"(d) Public Education. (1) The Administrator, in conjunction with the Secretary of Health and Human Services, acting through the Director of the Agency for Toxic Substances and Disease Registry, and in conjunction with the Secretary of Housing and Urban Development, shall sponsor public education and outreach activities to increase public awareness of --

"(A) the scope and severity of lead poisoning from household sources;

"(B) potential exposure to sources of lead in schools and childhood day care centers;

"(C) the implications of exposures for men and women, particularly those of childbearing age;

"(D) the need for careful, quality, abatement and management actions;

"(E) the need for universal screening of children;

"(F) other components of a lead poisoning prevention program;

"(G) the health consequences of lead exposure resulting from lead-based paint hazards;

"(H) risk assessment and inspection methods for lead-based paint hazards; and

"(I) measures to reduce the risk of lead exposure from lead-based paint.

"(2) The activities described in paragraph (1) shall be designed to provide educational services and information to --

"(A) health professionals;

"(B) the general public, with emphasis on parents of young children;

"(C) homeowners, landlords, and tenants;

"(D) consumers of home improvement products;

"(E) the residential real estate industry; and

"(F) the home renovation industry.

"(3) In implementing the activities described in paragraph (1), the Administrator shall assure coordination with the President's Commission on Environmental Quality's education and awareness campaign on lead poisoning.

"(4) The Administrator in consultation with the Chairman of the Consumer Product Safety Commission, shall develop information to be distributed by retailers of home improvement products to provide consumers with practical information related to the hazards of renovation and remodeling where lead-based paint may be present.

"(e) Technical Assistance. --

"(1) Clearinghouse. Not later than 6 months after the enactment of this subsection, the Administrator shall establish, in consultation with the Secretary of Housing and Urban Development and the Director of the Centers for Disease Control, a National Clearinghouse on Childhood Lead Poisoning (hereinafter in this section referred to as 'Clearinghouse'). The Clearinghouse shall--

"(A) collect, evaluate, and disseminate current information on the assessment and reduction of lead-based paint hazards, adverse health effects, sources of exposure, detection and risk assessment methods, environmental hazards abatement, and clean-up standards;

"(B) maintain a rapid-alert system to inform certified lead-based paint activities contractors of significant developments in research related to lead-based paint hazards; and

"(C) perform any other duty that the Administrator determines necessary to achieve the purposes of this Act.

"(2) Hotline. Not later than 6 months after the enactment of this subsection, the Administrator, in cooperation with other Federal agencies and with State and local governments, shall establish a single lead-based paint hazard hotline to provide the public with answers to questions about lead poisoning prevention and referrals to the Clearinghouse for technical information.

"(f) Products for Lead-Based Paint Activities. Not later than 30 months after the date of enactment of this section, the President shall, after notice and opportunity for comment, establish by rule appropriate criteria, testing protocols, and performance characteristics as are necessary to ensure, to the greatest extent possible and consistent with the purposes and policy of this title, that lead-based paint hazard evaluation and reduction products introduced into commerce after a period specified in the rule are effective for the intended use described by the manufacturer. The rule shall identify the types or classes of products that are subject to such rule. The President, in implementation of the rule, shall to the maximum extent possible, utilize independent testing laboratories, as appropriate, and consult with such entities and others in developing the rules. The President may delegate the authorities under this subsection to the Environmental Protection Agency or the Secretary of Commerce or such other appropriate agency.

#### "SEC. 406. LEAD HAZARD INFORMATION PAMPHLET.

"(a) Lead Hazard Information Pamphlet. Not later than 2 years after the enactment of this section, after notice and opportunity for comment, the Administrator of the Environmental Protection Agency, in consultation with the Secretary of Housing and Urban Development and with the Secretary of Health and Human Services, shall publish, and from time to time revise, a lead hazard information pamphlet to be used in connection with this title and section 1018 of the Residential Lead-Based Paint Hazard Reduction Act of 1992. The pamphlet shall --

"(1) contain information regarding the health risks associated with exposure to lead;

"(2) provide information on the presence of lead-based paint hazards in federally assisted, federally owned, and target housing;

"(3) describe the risks of lead exposure for children under 6 years of age, pregnant women, women of childbearing age, persons involved in home renovation, and others residing in a

dwelling with lead-based paint hazards;

"(4) describe the risks of renovation in a dwelling with lead-based paint hazards;

"(5) provide information on approved methods for evaluating and reducing lead-based paint hazards and their effectiveness in identifying, reducing, eliminating, or preventing exposure to lead-based paint hazards;

"(6) advise persons how to obtain a list of contractors certified pursuant to this title in lead-based paint hazard evaluation and reduction in the area in which the pamphlet is to be used;

"(7) state that a risk assessment or inspection for lead-based paint is recommended prior to the purchase, lease, or renovation of target housing;

"(8) state that certain State and local laws impose additional requirements related to lead-based paint in housing and provide a listing of Federal, State, and local agencies in each State, including address and telephone number, that can provide information about applicable laws and available governmental and private assistance and financing; and

"(9) provide such other information about environmental hazards associated with residential real property as the Administrator deems appropriate.

"(b) Renovation of Target Housing. Within 2 years after the enactment of this section, the Administrator shall promulgate regulations under this subsection to require each person who performs for compensation a renovation of target housing to provide a lead hazard information pamphlet to the owner and occupant of such housing prior to commencing the renovation.

#### "SEC. 407. REGULATIONS.

"The regulations of the Administrator under this title shall include such recordkeeping and reporting requirements as may be necessary to insure the effective implementation of this title. The regulations may be amended from time to time as necessary.

#### "SEC. 408. CONTROL OF LEAD-BASED PAINT HAZARDS AT FEDERAL FACILITIES.

"Each department, agency, and instrumentality of executive, legislative, and judicial branches of the Federal Government (1) having jurisdiction over any property or facility, or (2) engaged in any activity resulting, or which may result, in a lead-based paint hazard, and each officer, agent, or employee thereof, shall be subject to, and comply with, all Federal, State, interstate, and local requirements, both substantive and procedural (including any requirement for certification, licensing, recordkeeping, or reporting or any provisions for injunctive relief and such sanctions as may be imposed by a court to enforce such relief) respecting lead-based paint, lead-based paint activities, and lead-based paint hazards in the same manner, and to the same extent as any nongovernmental entity is subject to such requirements, including the payment of reasonable service charges. The Federal, State, interstate, and local substantive and procedural requirements referred to in this subsection include, but are not limited to, all administrative orders and all civil and administrative penalties and fines regardless of whether such penalties or fines are punitive or coercive in nature, or whether imposed for isolated, intermittent or continuing violations. The United States hereby expressly waives any immunity otherwise applicable to the United States with respect to any such substantive or procedural requirement (including, but not limited to, any



injunctive relief, administrative order, or civil or administrative penalty or fine referred to in the preceding sentence, or reasonable service charge). The reasonable service charges referred to in this section include, but are not limited to, fees or charges assessed for certification and licensing, as well as any other nondiscriminatory charges that are assessed in connection with a Federal, State, interstate, or local lead-based paint, lead-based paint activities, or lead-based paint hazard activities program. No agent, employee, or officer of the United States shall be personally liable for any civil penalty under any Federal, State, interstate, or local law relating to lead-based paint, lead-based paint activities, or lead-based paint hazards with respect to any act or omission within the scope of his official duties.

"SEC. 409. PROHIBITED ACTS.

"It shall be unlawful for any person to fail or refuse to comply with a provision of this title or with any rule or order issued under this title.

"SEC. 410. RELATIONSHIP TO OTHER FEDERAL LAW.

"Nothing in this title shall affect the authority of other appropriate Federal agencies to establish or enforce any requirements which are at least as stringent as those established pursuant to this title.

"SEC. 411. GENERAL PROVISIONS RELATING TO ADMINISTRATIVE PROCEEDINGS.

"(a) Applicability. This section applies to the promulgation or revision of any regulation issued under this title.

"(b) Rulemaking Docket. Not later than the date of proposal of an action to which this section applies, the Administrator shall establish a rulemaking docket for such action (hereinafter in this subsection referred to as a 'rule'). Whenever a rule applies only within a particular State, a second (identical) docket shall be established in the appropriate regional office of the Environmental Protection Agency.

"(c) Inspection and Copying. (1) The rulemaking docket required under subsection (b) shall be open for inspection by the public at reasonable times specified in the notice of proposed rulemaking. Any person may copy documents contained in the docket. The Administrator shall provide copying facilities which may be used at the expense of the person seeking copies, but the Administrator may waive or reduce such expenses in such instances as the public interest requires. Any person may request copies by mail if the person pays the expenses, including personnel costs to do the copying.

"(2)(A) Promptly upon receipt by the agency, all written comments and documentary information on the proposed rule received from any person for inclusion in the docket during the comment period shall be placed in the docket. The transcript of public hearings, if any, on the proposed rule shall also be included in the docket promptly upon receipt from the person who transcribed such hearings. All documents which become available after the proposed rule has been published and which the Administrator determines are of central relevance to the

rulemaking shall be placed in the docket as soon as possible after their availability.

"(B) The drafts of proposed rules submitted by the Administrator to the Office of Management and Budget for any interagency review process prior to proposal of any such rule, all documents accompanying such drafts, and all written comments thereon by other agencies and all written responses to such written comments by the Administrator shall be placed in the docket no later than the date of proposal of the rule. The drafts of the final rule submitted for such review process prior to promulgation and all such written comments thereon, all documents accompanying such drafts, and written responses thereto shall be placed in the docket no later than the date of promulgation.

"(d) Explanation. (1) The promulgated rule shall be accompanied by an explanation of the reasons for any major changes in the promulgated rule from the proposed rule.

"(2) The promulgated rule shall also be accompanied by a response to each of the significant comments, criticisms, and new data submitted in written or oral presentations during the comment period.

"(3) The promulgated rule may not be based (in part or whole) on any information or data which has not been placed in the docket as of the date of such promulgation.

"(e) Judicial Review. The material referred to in subsection (c)(2)(B) shall not be included in the record for judicial review.

"(f) Effective Date. The requirements of this section shall take effect with respect to any rule the proposal of which occurs after 90 days after the date of the enactment of this section.

#### "SEC. 412. AUTHORIZATION OF APPROPRIATIONS.

"There are authorized to be appropriated to carry out the purposes of this title such sums as may be necessary."

(b) Technical and Conforming Amendments. The Toxic Substances Control Act (15 U.S.C. 2610) is amended as follows:

(1) In paragraph (1) of section 7(a), strike "or 6" and insert "6, or title IV" and after "5" insert "or title IV."

(2) In the first sentence of subsection (a) of section 11:

(A) Strike "or mixtures" before "are manufactured" and insert ", mixtures, or products subject to title IV".

(B) Insert "such products," before "or such articles".

(3) In paragraph (1) of subsection (b) of section 11, strike "or mixtures" and insert ", mixtures, or products subject to title IV".

(4) In paragraph (1) of section 13(a) strike "or 6" in each place it appears and insert ", 6, or title IV" and strike "or 7" and insert ", 7 or title IV".

(5) In section 16, insert "or 409" after "section 15" each place it appears.

(6) In section 17, amend subsection (a) to read as follows:

"(a) Specific Enforcement. (1) The district courts of the United States shall have jurisdiction over civil actions to--

"(A) restrain any violation of section 15 or 409,

"(B) restrain any person from taking any action prohibited by section 5, 6, or title IV, or by a rule or order under section 5, 6, or title IV,

"(C) compel the taking of any action required by or under this Act, or

"(D) direct any manufacturer or processor of a chemical substance, mixture, or product subject to title IV manufactured or processed in violation of section 5, 6, or title IV, or a rule or order under section 5, 6, or title IV, and distributed in commerce, (i) to give notice of such fact to distributors in commerce of such substance, mixture, or product and, to the extent reasonably ascertainable, to other persons in possession of such substance, mixture, or product or expose to such substance, mixture, or product, (ii) to give public notice of such risk of injury, and (iii) to either replace or repurchase such substance, mixture, or product, whichever the person to which the requirement is directed elects."

(7) In the first sentence of subsection (b) of section 17--

(A) strike "or mixture" after "Any chemical substance" and inserting ", mixture, or product subject to title IV"; and

(B) insert "product," before "or article" in each place that it appears.

(8) In section 19 --

(A) In the first sentence of subsection (a), after "title II" insert "or IV".

(B) Before the semicolon at the end of subsection (a)(3)(B) insert "and in the case of a rule under title IV, the finding required for the issuance of such a rule".

(9) In section 20(a)(1) after "title II" insert "or IV" in each place it appears.

(10) Add at the end of the table of contents in section 1 the following:

#### "TITLE IV -- LEAD EXPOSURE REDUCTION

"Sec. 401. Definitions.

"Sec. 402. Lead-based paint activities training and certification.

"Sec. 403. Identification of dangerous levels of lead.

"Sec. 404. Authorized State programs.

"Sec. 405. Lead abatement and measurement.

"Sec. 406. Lead hazard information pamphlet.

"Sec. 407. Regulations.

"Sec. 408. Control of lead-based paint hazards at Federal facilities.

"Sec. 409. Prohibited acts.

"Sec. 410. Relationship to other federal law.

"Sec. 411. General provisions relating to administrative proceedings.

"Sec. 412. Authorization of appropriations."

(c) Short Title. This subtitle may be cited as the "Lead- Based Paint Exposure Reduction Act".

## SUBTITLE C -- WORKER PROTECTION

### SEC. 1031. WORKER PROTECTION.

Not later than 180 days after the enactment of this Act, the Secretary of Labor shall issue an interim final regulation regulating occupational exposure to lead in the construction industry. Such interim final regulation shall provide employment and places of employment to employees which are as safe and healthful as those which would prevail under the Department of Housing and Urban Development guidelines published at Federal Register 55, page 38973 (September 28, 1990) (Revised Chapter 8). Such interim final regulations shall take effect upon issuance (except that such regulations may include a reasonable delay in the effective date), shall have the legal effect of an Occupational Safety and Health Standard, and shall apply until a final standard becomes effective under section 6 of the Occupational Safety and Health Act of 1970.

### SEC. 1032. COORDINATION BETWEEN ENVIRONMENTAL PROTECTION AGENCY AND DEPARTMENT OF LABOR.

The Secretary of Labor, in promulgating regulations under section 1031, shall consult and coordinate with the Administrator of the Environmental Protection Agency for the purpose of achieving the maximum enforcement of title IV of the Toxic Substances Control Act and the Occupational Safety and Health Act of 1970 while imposing the least burdens of duplicative requirements on those subject to such title and Act and for other purposes.

### SEC. 1033. NIOSH RESPONSIBILITIES.

Section 22 of the Occupational Safety and Health Act of 1970 is amended by adding the following new subsection at the end thereof:

"(g) Lead-Based Paint Activities. --

"(1) Training grant program.

"(A) The Institute, in conjunction with the Administrator of the Environmental Protection Agency, may make grants for the training and education of workers and supervisors who are or may be directly engaged in lead-based paint activities.

"(B) Grants referred to in subparagraph (A) shall be awarded to nonprofit organizations (including colleges and universities, joint labor-management trust funds, States, and nonprofit government employee organizations) --

"(i) which are engaged in the training and education of workers and supervisors who are or who may be directly engaged in lead-based paint activities (as defined in title IV of the Toxic Substances Control Act),

"(ii) which have demonstrated experience in implementing and operating health and safety training and education programs, and

"(iii) with a demonstrated ability to reach, and involve in lead-based paint training programs, target populations of individuals who are or will be engaged in lead-based paint

activities.

Grants under this subsection shall be awarded only to those organizations that fund at least 30 percent of their lead-based paint activities training programs from non-Federal sources, excluding in-kind contributions. Grants may also be made to local governments to carry out such training and education for their employees.

"(C) There are authorized to be appropriated, at a minimum, \$ 10,000,000 to the Institute for each of the fiscal years 1994 through 1997 to make grants under this paragraph.

"(2) Evaluation of programs. The Institute shall conduct periodic and comprehensive assessments of the efficacy of the worker and supervisor training programs developed and offered by those receiving grants under this section. The Director shall prepare reports on the results of these assessments addressed to the Administrator of the Environmental Protection Agency to include recommendations as may be appropriate for the revision of these programs. The sum of \$ 500,000 is authorized to be appropriated to the Institute for each of the fiscal years 1994 through 1997 to carry out this paragraph."

## SUBTITLE D -- RESEARCH AND DEVELOPMENT

### PART 1 -- HUD RESEARCH

#### SEC. 1051. RESEARCH ON LEAD EXPOSURE FROM OTHER SOURCES.

The Secretary, in cooperation with other Federal agencies, shall conduct research on strategies to reduce the risk of lead exposure from other sources, including exterior soil and interior lead dust in carpets, furniture, and forced air ducts.

#### SEC. 1052. TESTING TECHNOLOGIES.

The Secretary, in cooperation with other Federal agencies, shall conduct research to --

- (1) develop improved methods for evaluating lead-based paint hazards in housing;
- (2) develop improved methods for reducing lead-based paint hazards in housing;
- (3) develop improved methods for measuring lead in paint films, dust, and soil samples;
- (4) establish performance standards for various detection methods, including spot test kits;
- (5) establish performance standards for lead-based paint hazard reduction methods, including the use of encapsulants;
- (6) establish appropriate cleanup standards;
- (7) evaluate the efficacy of interim controls in various hazard situations;
- (8) evaluate the relative performance of various abatement techniques;
- (9) evaluate the long-term cost-effectiveness of interim control and abatement strategies; and
- (10) assess the effectiveness of hazard evaluation and reduction activities funded by this Act.

#### SEC. 1053. AUTHORIZATION.

Of the total amount approved in appropriation Acts under section 1011(o), there shall set aside to carry out this part \$ 5,000,000 for fiscal year 1993, and \$ 5,000,000 for fiscal year 1994.

### PART 2 -- GAO REPORT

#### SEC. 1056. FEDERAL IMPLEMENTATION AND INSURANCE STUDY.

(a) Federal Implementation Study. The Comptroller General of the United States shall assess the effectiveness of Federal enforcement and compliance with lead safety laws and regulations, including any changes needed in annual inspection procedures to identify lead-based paint hazards in units receiving assistance under subsections (b) and (o) of section 8 of the United States Housing Act of 1937.

(b) Insurance Study. The Comptroller General of the United States shall assess the availability of liability insurance for owners of residential housing that contains lead-based paint and persons engaged in lead-based paint hazard evaluation and reduction activities. In carrying out the

assessment, the Comptroller General shall --

(1) analyze any precedents in the insurance industry for the containment and abatement of environmental hazards, such as asbestos, in federally assisted housing;

(2) provide an assessment of the recent insurance experience in the public housing lead hazard identification and reduction program; and

(3) recommend measures for increasing the availability of liability insurance to owners and contractors engaged in federally supported work.



## SUBTITLE E -- REPORTS

### SEC. 1061. REPORTS OF THE SECRETARY OF HOUSING AND URBAN DEVELOPMENT.

(a) Annual Report. The Secretary shall transmit to the Congress an annual report that --

(1) sets forth the Secretary's assessment of the progress made in implementing the various programs authorized by this title;

(2) summarizes the most current health and environmental studies on childhood lead poisoning, including studies that analyze the relationship between interim control and abatement activities and the incidence of lead poisoning in resident children;

(3) recommends legislative and administrative initiatives that may improve the performance by the Department of Housing and Urban Development in combating lead hazards through the expansion of lead hazard evaluation and reduction activities;

(4) describes the results of research carried out in accordance with subtitle D; and

(5) estimates the amount of Federal assistance annually expended on lead hazard evaluation and reduction activities.

(b) Biennial Report. --

(1) In general. 24 months after the date of enactment of this Act, and at the end of every 24-month period thereafter, the Secretary shall report to the Congress on the progress of the Department of Housing and Urban Development in implementing expanded lead-based paint hazard evaluation and reduction activities.

(2) Contents. The report shall --

(A) assess the effectiveness of section 1018 in making the public aware of lead-based paint hazards;

(B) estimate the extent to which lead-based paint hazard evaluation and reduction activities are being conducted in the various categories of housing;

(C) monitor and report expenditures for lead-based paint hazard evaluation and reduction for programs within the jurisdiction of the Department of Housing and Urban Development;

(D) identify the infrastructure needed to eliminate lead-based paint hazards in all housing as expeditiously as possible, including cost-effective technology, standards and regulations, trained and certified contractors, certified laboratories, liability insurance, private financing techniques, and appropriate Government subsidies;

(E) assess the extent to which the infrastructure described in subparagraph (D) exists, make recommendations to correct shortcomings, and provide estimates of the costs of measures needed to build an adequate infrastructure; and

(F) include any additional information that the Secretary deems appropriate.



## APPENDIX H

# U.S. EPA Lead Renovation, Repair, and Painting Rule 40 CFR Part 745

This rule, issued in 2008, phases in requirements regarding lead renovation, repair, and painting. Beginning in April 2010, contractors and renovators who work in pre-1978 housing and child-occupied facilities must be certified and must follow specific work practices to prevent lead contamination. The rule also sets forth requirements for training, certifying, and accrediting providers of renovation, including renovators, renovation workers, and dust sampling technicians. The rules for lead safe work practices include a ban of open flame burning or torching, and restrictions on other widely used methods, including heat guns and other power tools to remove paint.

As of July 2008, renovators and contractors performing renovation, repair, and painting projects that disturb lead-based paint are required to distribute a lead hazard information pamphlet, *Renovate Right: Important Lead Hazard Information for Families, Child Care Providers, and Schools*, to the owners and administrators of child-occupied facilities before beginning renovations in these facilities. Renovators must also make renovation information available to the parents or guardians of children under age six that attend these facilities.

The rule affects paid renovators who work in pre-1978 housing and child-occupied facilities. This includes renovation contractors, maintenance workers in multi-family housing, painters, and other specialty trades. Child-occupied facilities are residential, public, or commercial buildings built before 1978 where children under age six are present on a regular basis. Child care facilities and kindergarten and pre-kindergarten classrooms are examples of child-occupied facilities.

Code of Federal Regulations Currentness

Title 40. Protection of Environment

Chapter I. Environmental Protection Agency (Refs & Annos)

Subchapter R. Toxic Substances Control Act

→ Part 745. Lead-Based Paint Poisoning Prevention in Certain Residential Structures (Refs & Annos)  
Subparts A to C. [Reserved]

#### **Subpart D. Lead-Based Paint Hazards (Refs & Annos)**

##### **§ 745.61 Scope and applicability.**

- (a) This subpart identifies lead-based paint hazards.
- (b) The standards for lead-based paint hazards apply to target housing and child-occupied facilities.
- (c) Nothing in this subpart requires the owner of property(ies) subject to these standards to evaluate the property(ies) for the presence of lead-based paint hazards or take any action to control these conditions if one or more of them is identified.

##### **§ 745.63 Definitions.**

The following definitions apply to part 745.

Arithmetic mean means the algebraic sum of data values divided by the number of data values (e.g., the sum of the concentration of lead in several soil samples divided by the number of samples).

Chewable surface means an interior or exterior surface painted with lead-based paint that a young child can mouth or chew. A chewable surface is the same as an "accessible surface" as defined in [42 U.S.C. 4851b\(2\)](#). Hard metal substrates and other materials that cannot be dented by the bite of a young child are not considered chewable.

Common area group means a group of common areas that are similar in design, construction, and function. Common area groups include, but are not limited to hallways, stairwells, and laundry rooms.

Concentration means the relative content of a specific substance contained within a larger mass, such as the amount of lead (in micrograms per gram or parts per million by weight) in a sample of dust or soil.

Deteriorated paint means any interior or exterior paint or other coating that is peeling, chipping, chalking or cracking, or any paint or coating located on an interior or exterior surface or fixture that is otherwise damaged or separated from the substrate.

Dripline means the area within 3 feet surrounding the perimeter of a building.

Friction surface means an interior or exterior surface that is subject to abrasion or friction, including, but not limited to, certain window, floor, and stair surfaces.

Impact surface means an interior or exterior surface that is subject to damage by repeated sudden force such as certain parts of door frames.

Interior window sill means the portion of the horizontal window ledge that protrudes into the interior of the room.

Lead-based paint hazard means hazardous lead-based paint, dust-lead hazard or soil-lead hazard as identified in [§ 745.65](#).

Loading means the quantity of a specific substance present per unit of surface area, such as the amount of lead in micrograms contained in the dust collected from a certain surface area divided by the surface area in square feet or square meters.

Mid-yard means an area of a residential yard approximately midway between the dripline of a residential building and the nearest property boundary or between the driplines of a residential building and another building on the same property.

Play area means an area of frequent soil contact by children of less than 6 years of age as indicated by, but not limited to, such factors including the following: the presence of play equipment (e.g., sandboxes, swing sets, and sliding boards), toys, or other children's possessions, observations of play patterns, or information provided by parents, residents, care givers, or property owners.

Residential building means a building containing one or more residential dwellings.

Room means a separate part of the inside of a building, such as a bedroom, living room, dining room, kitchen, bathroom, laundry room, or utility room. To be considered a separate room, the room must be separated from adjoining rooms by built-in walls or archways that extend at least 6 inches from an intersecting wall. Half walls or bookcases count as room separators if built-in. Movable or collapsible partitions or partitions consisting solely of shelves or cabinets are not considered built-in walls. A screened in porch that is used as a living area is a room.

Soil sample means a sample collected in a representative location using ASTM E1727, "Standard Practice for Field Collection of Soil Samples for Lead Determination by Atomic Spectrometry Techniques," or equivalent method.

Weighted arithmetic mean means the arithmetic mean of sample results weighted by the number of subsamples in each sample. Its purpose is to give influence to a sample relative to the surface area it represents. A single surface sample is comprised of a single subsample. A composite sample may contain from two to four subsamples of the same area as each other and of each single surface sample in the composite. The weighted arithmetic mean is obtained by summing, for all samples, the product of the sample's result multiplied by the number of subsamples in the sample, and dividing the sum by the total number of subsamples contained in all samples. For example, the weighted arithmetic mean of a single surface sample containing  $60 \mu\text{g}/\text{ft}^2$ , a composite sample (three subsamples) containing  $100 \mu\text{g}/\text{ft}^2$ , and a composite sample (4 subsamples) containing  $110 \mu\text{g}/\text{ft}^2$  is  $100 \mu\text{g}/\text{ft}^2$ . This result is based on the equation  $[60+(3*100)+(4*110)]/(1+3+4)$ .

Window trough means, for a typical double-hung window, the portion of the exterior window sill between the interior window sill (or stool) and the frame of the storm window. If there is no storm window, the window trough is the area that receives both the upper and lower window sashes when they are both lowered. The window trough is sometimes referred to as the window "well."

Wipe sample means a sample collected by wiping a representative surface of known area, as determined by ASTM E1728, "Standard Practice for Field Collection of Settled Dust Samples Using Wipe Sampling Methods for Lead Determination by Atomic Spectrometry Techniques, or equivalent method, with an acceptable wipe material as defined in ASTM E 1792, "Standard Specification for Wipe Sampling Materials for Lead in Surface Dust."

### [§ 745.65 Lead-based paint hazards.](#)

(a) Paint-lead hazard. A paint-lead hazard is any of the following:

(1) Any lead-based paint on a friction surface that is subject to abrasion and where the lead dust levels on the nearest

horizontal surface underneath the friction surface (e.g., the window sill, or floor) are equal to or greater than the dust-lead hazard levels identified in paragraph (b) of this section.

(2) Any damaged or otherwise deteriorated lead-based paint on an impact surface that is caused by impact from a related building component (such as a door knob that knocks into a wall or a door that knocks against its door frame).

(3) Any chewable lead-based painted surface on which there is evidence of teeth marks.

(4) Any other deteriorated lead-based paint in any residential building or child-occupied facility or on the exterior of any residential building or child-occupied facility.

(b) Dust-lead hazard. A dust-lead hazard is surface dust in a residential dwelling or child-occupied facility that contains a mass-per-area concentration of lead equal to or exceeding  $40 \mu\text{g}/\text{ft}^2$  on floors or  $250 \mu\text{g}/\text{ft}^2$  on interior window sills based on wipe samples.

(c) Soil-lead hazard. A soil-lead hazard is bare soil on residential real property or on the property of a child-occupied facility that contains total lead equal to or exceeding 400 parts per million ( $\mu\text{g}/\text{g}$ ) in a play area or average of 1,200 parts per million of bare soil in the rest of the yard based on soil samples.

(d) Work practice requirements. Applicable certification, occupant protection, and clearance requirements and work practice standards are found in regulations issued by EPA at 40 CFR part 745, subpart L and in regulations issued by the Department of Housing and Urban Development (HUD) at 24 CFR part 35, subpart R. The work practice standards in those regulations do not apply when treating paint-lead hazards of less than:

(1) Two square feet of deteriorated lead-based paint per room or equivalent,

(2) Twenty square feet of deteriorated paint on the exterior building, or

(3) Ten percent of the total surface area of deteriorated paint on an interior or exterior type of component with a small surface area.

#### **Subpart F. Disclosure of Known Lead-Based Paint and/or Lead-Based Paint Hazards Upon Sale or Lease of Residential Property**

##### **§ 745.100 Purpose.**

This subpart implements the provisions of [42 U.S.C. 4852d](#), which impose certain requirements on the sale or lease of target housing. Under this subpart, a seller or lessor of target housing shall disclose to the purchaser or lessee the presence of any known lead-based paint and/or lead-based paint hazards; provide available records and reports; provide the purchaser or lessee with a lead hazard information pamphlet; give purchasers a 10-day opportunity to conduct a risk assessment or inspection; and attach specific disclosure and warning language to the sales or leasing contract before the purchaser or lessee is obligated under a contract to purchase or lease target housing.

##### **§ 745.101 Scope and applicability.**

This subpart applies to all transactions to sell or lease target housing, including subleases, with the exception of the following:

(a) Sales of target housing at foreclosure.

(b) Leases of target housing that have been found to be lead-based paint free by an inspector certified under the Federal certification program or under a federally accredited State or tribal certification program. Until a Federal certification program or federally accredited State certification program is in place within the State, inspectors shall be considered qualified to conduct an inspection for this purpose if they have received certification under any existing State or tribal inspector certification program. The lessor has the option of using the results of additional test(s) by a certified inspector to confirm or refute a prior finding.

(c) Short-term leases of 100 days or less, where no lease renewal or extension can occur.

(d) Renewals of existing leases in target housing in which the lessor has previously disclosed all information required under [§ 745.107](#) and where no new information described in [§ 745.107](#) has come into the possession of the lessor. For the purposes of this paragraph, renewal shall include both renegotiation of existing lease terms and/or ratification of a new lease.

#### **[§ 745.102 Effective dates.](#)**

The requirements in this subpart take effect in the following manner:

(a) For owners of more than four residential dwellings, the requirements shall take effect on September 6, 1996.

(b) For owners of one to four residential dwellings, the requirements shall take effect on December 6, 1996.

#### **[§ 745.103 Definitions.](#)**

The following definitions apply to this subpart.

The Act means the Residential Lead-Based Paint Hazard Reduction Act of 1992, [42 U.S.C. 4852d](#).

Agent means any party who enters into a contract with a seller or lessor, including any party who enters into a contract with a representative of the seller or lessor, for the purpose of selling or leasing target housing. This term does not apply to purchasers or any purchaser's representative who receives all compensation from the purchaser.

Available means in the possession of or reasonably obtainable by the seller or lessor at the time of the disclosure.

Common area means a portion of a building generally accessible to all residents/users including, but not limited to, hallways, stairways, laundry and recreational rooms, playgrounds, community centers, and boundary fences.

Contract for the purchase and sale of residential real property means any contract or agreement in which one party agrees to purchase an interest in real property on which there is situated one or more residential dwellings used or occupied, or intended to be used or occupied, in whole or in part, as the home or residence of one or more persons.

EPA means the Environmental Protection Agency.

Evaluation means a risk assessment and/or inspection.

Foreclosure means any of the various methods, statutory or otherwise, known in different jurisdictions, of enforcing payment of a debt, by the taking and selling of real property.

Housing for the elderly means retirement communities or similar types of housing reserved for households composed of one or more persons 62 years of age or more at the time of initial occupancy.

HUD means the U.S. Department of Housing and Urban Development.

Inspection means:

(1) A surface-by-surface investigation to determine the presence of lead-based paint as provided in section 302(c) of the Lead-Based Paint Poisoning and Prevention Act [[42 U.S.C. 4822](#)], and

(2) The provision of a report explaining the results of the investigation.

Lead-based paint means paint or other surface coatings that contain lead equal to or in excess of 1.0 milligram per square centimeter or 0.5 percent by weight.

Lead-based paint free housing means target housing that has been found to be free of paint or other surface coatings that contain lead equal to or in excess of 1.0 milligram per square centimeter or 0.5 percent by weight.

Lead-based paint hazard means any condition that causes exposure to lead from lead-contaminated dust, lead-contaminated soil, or lead-contaminated paint that is deteriorated or present in accessible surfaces, friction surfaces, or impact surfaces that would result in adverse human health effects as established by the appropriate Federal agency.

Lessee means any entity that enters into an agreement to lease, rent, or sublease target housing, including but not limited to individuals, partnerships, corporations, trusts, government agencies, housing agencies, Indian tribes, and nonprofit organizations.

Lessor means any entity that offers target housing for lease, rent, or sublease, including but not limited to individuals, partnerships, corporations, trusts, government agencies, housing agencies, Indian tribes, and nonprofit organizations.

Owner means any entity that has legal title to target housing, including but not limited to individuals, partnerships, corporations, trusts, government agencies, housing agencies, Indian tribes, and nonprofit organizations, except where a mortgagee holds legal title to property serving as collateral for a mortgage loan, in which case the owner would be the mortgagor.

Purchaser means an entity that enters into an agreement to purchase an interest in target housing, including but not limited to individuals, partnerships, corporations, trusts, government agencies, housing agencies, Indian tribes, and nonprofit organizations.

Reduction means measures designed to reduce or eliminate human exposure to lead-based paint hazards through methods including interim controls and abatement.

Residential dwelling means:

(1) A single-family dwelling, including attached structures such as porches and stoops; or

(2) A single-family dwelling unit in a structure that contains more than one separate residential dwelling unit, and in which each such unit is used or occupied, or intended to be used or occupied, in whole or in part, as the residence of one or more persons.

Risk assessment means an on-site investigation to determine and report the existence, nature, severity, and location of lead-



based paint hazards in residential dwellings, including:

- (1) Information gathering regarding the age and history of the housing and occupancy by children under age 6;
- (2) Visual inspection;
- (3) Limited wipe sampling or other environmental sampling techniques;
- (4) Other activity as may be appropriate; and
- (5) Provision of a report explaining the results of the investigation.

Secretary means the Secretary of Housing and Urban Development.

Seller means any entity that transfers legal title to target housing, in whole or in part, in return for consideration, including but not limited to individuals, partnerships, corporations, trusts, government agencies, housing agencies, Indian tribes, and nonprofit organizations. The term "seller" also includes:

- (1) An entity that transfers shares in a cooperatively owned project, in return for consideration; and
- (2) An entity that transfers its interest in a leasehold, in jurisdictions or circumstances where it is legally permissible to separate the fee title from the title to the improvement, in return for consideration.

Target housing means any housing constructed prior to 1978, except housing for the elderly or persons with disabilities (unless any child who is less than 6 years of age resides or is expected to reside in such housing) or any 0-bedroom dwelling.

TSCA means the Toxic Substances Control Act, [15 U.S.C. 2601](#).

0-bedroom dwelling means any residential dwelling in which the living area is not separated from the sleeping area. The term includes efficiencies, studio apartments, dormitory housing, military barracks, and rentals of individual rooms in residential dwellings.

#### **[§ 745.107 Disclosure requirements for sellers and lessors.](#)**

(a) The following activities shall be completed before the purchaser or lessee is obligated under any contract to purchase or lease target housing that is not otherwise an exempt transaction pursuant to [§ 745.101](#). Nothing in this section implies a positive obligation on the seller or lessor to conduct any evaluation or reduction activities.

- (1) The seller or lessor shall provide the purchaser or lessee with an EPA-approved lead hazard information pamphlet. Such pamphlets include the EPA document entitled Protect Your Family From Lead in Your Home (EPA 747-K-94-001) or an equivalent pamphlet that has been approved for use in that State by EPA.
- (2) The seller or lessor shall disclose to the purchaser or lessee the presence of any known lead-based paint and/or lead-based paint hazards in the target housing being sold or leased. The seller or lessor shall also disclose any additional information available concerning the known lead-based paint and/or lead-based paint hazards, such as the basis for the determination that lead-based paint and/or lead-based paint hazards exist, the location of the lead-based paint and/or lead-based paint hazards, and the condition of the painted surfaces.

(3) The seller or lessor shall disclose to each agent the presence of any known lead-based paint and/or lead-based paint hazards in the target housing being sold or leased and the existence of any available records or reports pertaining to lead-based paint and/or lead-based paint hazards. The seller or lessor shall also disclose any additional information available concerning the known lead-based paint and/or lead-based paint hazards, such as the basis for the determination that lead-based paint and/or lead-based paint hazards exist, the location of the lead-based paint and/or lead-based paint hazards, and the condition of the painted surfaces.

(4) The seller or lessor shall provide the purchaser or lessee with any records or reports available to the seller or lessor pertaining to lead-based paint and/or lead-based paint hazards in the target housing being sold or leased. This requirement includes records or reports regarding common areas. This requirement also includes records or reports regarding other residential dwellings in multifamily target housing, provided that such information is part of an evaluation or reduction of lead-based paint and/or lead-based paint hazards in the target housing as a whole.

(b) If any of the disclosure activities identified in paragraph (a) of this section occurs after the purchaser or lessee has provided an offer to purchase or lease the housing, the seller or lessor shall complete the required disclosure activities prior to accepting the purchaser's or lessee's offer and allow the purchaser or lessee an opportunity to review the information and possibly amend the offer.

#### **§ 745.110 Opportunity to conduct an evaluation.**

(a) Before a purchaser is obligated under any contract to purchase target housing, the seller shall permit the purchaser a 10-day period (unless the parties mutually agree, in writing, upon a different period of time) to conduct a risk assessment or inspection for the presence of lead-based paint and/or lead-based paint hazards.

(b) Notwithstanding paragraph (a) of this section, a purchaser may waive the opportunity to conduct the risk assessment or inspection by so indicating in writing.

#### **§ 745.113 Certification and acknowledgment of disclosure.**

(a) Seller requirements. Each contract to sell target housing shall include an attachment containing the following elements, in the language of the contract (e.g., English, Spanish):

(1) A Lead Warning Statement consisting of the following language:

Every purchaser of any interest in residential real property on which a residential dwelling was built prior to 1978 is notified that such property may present exposure to lead from lead-based paint that may place young children at risk of developing lead poisoning. Lead poisoning in young children may produce permanent neurological damage, including learning disabilities, reduced intelligence quotient, behavioral problems, and impaired memory. Lead poisoning also poses a particular risk to pregnant women. The seller of any interest in residential real property is required to provide the buyer with any information on lead-based paint hazards from risk assessments or inspections in the seller's possession and notify the buyer of any known lead-based paint hazards. A risk assessment or inspection for possible lead-based paint hazards is recommended prior to purchase.

(2) A statement by the seller disclosing the presence of known lead-based paint and/or lead-based paint hazards in the target housing being sold or indicating no knowledge of the presence of lead-based paint and/or lead-based paint hazards. The seller shall also provide any additional information available concerning the known lead-based paint and/or lead-based paint hazards, such as the basis for the determination that lead-based paint and/or lead-based paint hazards exist, the location of the lead-based paint and/or lead-based paint hazards, and the condition of the painted surfaces.

(3) A list of any records or reports available to the seller pertaining to lead-based paint and/or lead-based paint hazards in

the housing that have been provided to the purchaser. If no such records or reports are available, the seller shall so indicate.

(4) A statement by the purchaser affirming receipt of the information set out in paragraphs (a)(2) and (a)(3) of this section and the lead hazard information pamphlet required under 15 U.S.C. 2696.

(5) A statement by the purchaser that he/she has either:

(i) Received the opportunity to conduct the risk assessment or inspection required by [§ 745.110\(a\)](#); or

(ii) Waived the opportunity.

(6) When one or more agents are involved in the transaction to sell target housing on behalf of the seller, a statement that:

(i) The agent has informed the seller of the seller's obligations under [42 U.S.C. 4852d](#); and

(ii) The agent is aware of his/her duty to ensure compliance with the requirements of this subpart.

(7) The signatures of the sellers, agents, and purchasers certifying to the accuracy of their statements to the best of their knowledge, along with the dates of signature.

(b) Lessor requirements. Each contract to lease target housing shall include, as an attachment or within the contract, the following elements, in the language of the contract (e.g., English, Spanish):

(1) A Lead Warning Statement with the following language:

Housing built before 1978 may contain lead-based paint. Lead from paint, paint chips, and dust can pose health hazards if not managed properly. Lead exposure is especially harmful to young children and pregnant women. Before renting pre-1978 housing, lessors must disclose the presence of lead-based paint and/or lead-based paint hazards in the dwelling. Lessees must also receive a federally approved pamphlet on lead poisoning prevention.

(2) A statement by the lessor disclosing the presence of known lead-based paint and/or lead-based paint hazards in the target housing being leased or indicating no knowledge of the presence of lead-based paint and/or lead-based paint hazards. The lessor shall also disclose any additional information available concerning the known lead-based paint and/or lead-based paint hazards, such as the basis for the determination that lead-based paint and/or lead-based paint hazards exist, the location of the lead-based paint and/or lead-based paint hazards, and the condition of the painted surfaces.

(3) A list of any records or reports available to the lessor pertaining to lead-based paint and/or lead-based paint hazards in the housing that have been provided to the lessee. If no such records or reports are available, the lessor shall so indicate.

(4) A statement by the lessee affirming receipt of the information set out in paragraphs (b)(2) and (b)(3) of this section and the lead hazard information pamphlet required under 15 U.S.C. 2696.

(5) When one or more agents are involved in the transaction to lease target housing on behalf of the lessor, a statement that:

(i) The agent has informed the lessor of the lessor's obligations under [42 U.S.C. 4852d](#); and

(ii) The agent is aware of his/her duty to ensure compliance with the requirements of this subpart.

(6) The signatures of the lessors, agents, and lessees, certifying to the accuracy of their statements, to the best of their knowledge, along with the dates of signature.

(c) Retention of Certification and Acknowledgment Information.

(1) The seller, and any agent, shall retain a copy of the completed attachment required under paragraph (a) of this section for no less than 3 years from the completion date of the sale. The lessor, and any agent, shall retain a copy of the completed attachment or lease contract containing the information required under paragraph (b) of this section for no less than 3 years from the commencement of the leasing period.

(2) This recordkeeping requirement is not intended to place any limitations on civil suits under the Act, or to otherwise affect a lessee's or purchaser's rights under the civil penalty provisions of [42 U.S.C. 4852d\(b\)\(3\)](#).

(d) The seller, lessor, or agent shall not be responsible for the failure of a purchaser's or lessee's legal representative (where such representative receives all compensation from the purchaser or lessee) to transmit disclosure materials to the purchaser or lessee, provided that all required parties have completed and signed the necessary certification and acknowledgment language required under paragraphs (a) and (b) of this section.

**[§ 745.115 Agent responsibilities.](#)**

(a) Each agent shall ensure compliance with all requirements of this subpart. To ensure compliance, the agent shall:

(1) Inform the seller or lessor of his/her obligations under [§§ 745.107](#), [745.110](#), and [745.113](#).

(2) Ensure that the seller or lessor has performed all activities required under [§§ 745.107](#), [745.110](#), and [745.113](#), or personally ensure compliance with the requirements of [§§ 745.107](#), [745.110](#), and [745.113](#).

(b) If the agent has complied with paragraph (a)(1) of this section, the agent shall not be liable for the failure to disclose to a purchaser or lessee the presence of lead-based paint and/or lead-based paint hazards known by a seller or lessor but not disclosed to the agent.

**[§ 745.118 Enforcement.](#)**

(a) Any person who knowingly fails to comply with any provision of this subpart shall be subject to civil monetary penalties in accordance with the provisions of [42 U.S.C. 3545](#) and 24 CFR part 30.

(b) The Secretary is authorized to take such action as may be necessary to enjoin any violation of this subpart in the appropriate Federal district court.

(c) Any person who knowingly violates the provisions of this subpart shall be jointly and severally liable to the purchaser or lessee in an amount equal to 3 times the amount of damages incurred by such individual.

(d) In any civil action brought for damages pursuant to [42 U.S.C. 4852d\(b\)\(3\)](#), the appropriate court may award court costs to the party commencing such action, together with reasonable attorney fees and any expert witness fees, if that party prevails.

(e) Failure or refusal to comply with [§ 745.107](#) (disclosure requirements for sellers and lessors), [§ 745.110](#) (opportunity to conduct an evaluation), [§ 745.113](#) (certification and acknowledgment of disclosure), or [§ 745.115](#) (agent responsibilities) is a violation of [42 U.S.C. 4852d\(b\)\(5\)](#) and of TSCA section 409 ([15 U.S.C. 2689](#)).

(f) Violators may be subject to civil and criminal sanctions pursuant to TSCA [section 16 \(15 U.S.C. 2615\)](#) for each violation. For purposes of enforcing this subpart, the penalty for each violation applicable under [15 U.S.C. 2615](#) shall be not more than \$11,000 for all violations occurring after July 28, 1997; all violations occurring on or prior to that date are subject to a penalty not more than \$10,000.

#### **[§ 745.119 Impact on State and local requirements.](#)**

Nothing in this subpart shall relieve a seller, lessor, or agent from any responsibility for compliance with State or local laws, ordinances, codes, or regulations governing notice or disclosure of known lead-based paint or lead-based paint hazards. Neither HUD nor EPA assumes any responsibility for ensuring compliance with such State or local requirements.

#### **Subparts G to K. [Reserved]**

#### **Subparts M to P. [Reserved]**

#### **Subpart E. Residential Property Renovation (Refs & Annos)**

#### **[§ 745.80 Purpose.](#)**

This subpart contains regulations developed under sections 402 and 406 of the Toxic Substances Control Act ([15 U.S.C. 2682](#) and [2686](#)) and applies to all renovations performed for compensation in target housing and child-occupied facilities. The purpose of this subpart is to ensure the following:

- (a) Owners and occupants of target housing and child-occupied facilities receive information on lead-based paint hazards before these renovations begin; and
- (b) Individuals performing renovations regulated in accordance with [§ 745.82](#) are properly trained; renovators and firms performing these renovations are certified; and the work practices in [§ 745.85](#) are followed during these renovations.

#### **[§ 745.81 Effective dates.](#)**

(a) Training, certification and accreditation requirements and work practice standards. The training, certification and accreditation requirements and work practice standards in this subpart are applicable in any State or Indian Tribal area that does not have a renovation program that is authorized under subpart Q of this part. The training, certification and accreditation requirements and work practice standards in this subpart will become effective as follows:

(1) Training programs. Effective June 23, 2008, no training program may provide, offer, or claim to provide training or refresher training for EPA certification as a renovator or a dust sampling technician without accreditation from EPA under [§ 745.225](#). Training programs may apply for accreditation under [§ 745.225](#) beginning April 22, 2009.

(2) Firms.

(i) Firms may apply for certification under [§ 745.89](#) beginning October 22, 2009.

(ii) On or after April 22, 2010, no firm may perform, offer, or claim to perform renovations without certification from EPA under [§ 745.89](#) in target housing or child-occupied facilities, unless the renovation qualifies for one of the exceptions identified in [§ 745.82\(a\)](#) or [\(c\)](#).

(3) Individuals. On or after April 22, 2010, all renovations must be directed by renovators certified in accordance with [§ 745.90\(a\)](#) and performed by certified renovators or individuals trained in accordance with [§ 745.90\(b\)\(2\)](#) in target housing or child-occupied facilities, unless the renovation qualifies for one of the exceptions identified in [§ 745.82\(a\)](#) or [\(c\)](#).

(4) Work practices. On or after April 22, 2010, all renovations must be performed in accordance with the work practice standards in [§ 745.85](#) and the associated recordkeeping requirements in [§ 745.86\(b\)\(6\)](#) and [\(b\)\(7\)](#) in target housing or child-occupied facilities, unless the renovation qualifies for one of the exceptions identified in [§ 745.82\(a\)](#) or [\(c\)](#).

(5) The suspension and revocation provisions in [§ 745.91](#) are effective April 22, 2010.

(b) Renovation-specific pamphlet. Before December 22, 2008, renovators or firms performing renovations in States and Indian Tribal areas without an authorized program may provide owners and occupants with either of the following EPA pamphlets: Protect Your Family From Lead in Your Home or Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools. After that date, Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools must be used exclusively.

(c) Pre-Renovation Education Rule. With the exception of the requirement to use the pamphlet entitled Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools, the provisions of the Pre-Renovation Education Rule in this subpart have been in effect since June 1999.

#### [§ 745.82 Applicability.](#)

(a) This subpart applies to all renovations performed for compensation in target housing and child-occupied facilities, except for the following:

(1) Renovations in target housing or child-occupied facilities in which a written determination has been made by an inspector or risk assessor (certified pursuant to either Federal regulations at [§ 745.226](#) or a State or Tribal certification program authorized pursuant to [§ 745.324](#)) that the components affected by the renovation are free of paint or other surface coatings that contain lead equal to or in excess of 1.0 milligrams/per square centimeter ( $\text{mg}/\text{cm}^2$ ) or 0.5% by weight, where the firm performing the renovation has obtained a copy of the determination.

(2) Renovations in target housing or child-occupied facilities in which a certified renovator, using an EPA recognized test kit as defined in [§ 745.83](#) and following the kit manufacturer's instructions, has tested each component affected by the renovation and determined that the components are free of paint or other surface coatings that contain lead equal to or in excess of 1.0  $\text{mg}/\text{cm}^2$  or 0.5% by weight. If the components make up an integrated whole, such as the individual stair treads and risers of a single staircase, the renovator is required to test only one of the individual components, unless the individual components appear to have been repainted or refinished separately.

(b) The information distribution requirements in [§ 745.84](#) do not apply to emergency renovations, which are renovation activities that were not planned but result from a sudden, unexpected event (such as non-routine failures of equipment) that, if not immediately attended to, presents a safety or public health hazard, or threatens equipment and/or property with significant damage. Interim controls performed in response to an elevated blood lead level in a resident child are also emergency renovations. Emergency renovations other than interim controls are also exempt from the warning sign, containment, waste handling, training, and certification requirements in [§§ 745.85](#), [745.89](#), and [745.90](#) to the extent necessary to respond to the

emergency. Emergency renovations are not exempt from the cleaning requirements of [§ 745.85\(a\)\(5\)](#), which must be performed by certified renovators or individuals trained in accordance with [§ 745.90\(b\)\(2\)](#), the cleaning verification requirements of [§ 745.85\(b\)](#), which must be performed by certified renovators, and the recordkeeping requirements of [§ 745.86\(b\)\(6\)](#) and [\(b\)\(7\)](#).

(c) The training requirements in [§ 745.90](#) and the work practice standards for renovation activities in [§ 745.85](#) apply to all renovations covered by this subpart, except for renovations in target housing for which the firm performing the renovation has obtained a statement signed by the owner that the renovation will occur in the owner's residence, no child under age 6 resides there, no pregnant woman resides there, the housing is not a child-occupied facility, and the owner acknowledges that the renovation firm will not be required to use the work practices contained in EPA's renovation, repair, and painting rule. For the purposes of this section, a child resides in the primary residence of his or her custodial parents, legal guardians, and foster parents. A child also resides in the primary residence of an informal caretaker if the child lives and sleeps most of the time at the caretaker's residence.

### **§ 745.83 Definitions.**

For purposes of this part, the definitions in [§ 745.103](#) as well as the following definitions apply:

Administrator means the Administrator of the Environmental Protection Agency.

Child-occupied facility means a building, or portion of a building, constructed prior to 1978, visited regularly by the same child, under 6 years of age, on at least two different days within any week (Sunday through Saturday period), provided that each day's visit lasts at least 3 hours and the combined weekly visits last at least 6 hours, and the combined annual visits last at least 60 hours. Child-occupied facilities may include, but are not limited to, day care centers, preschools and kindergarten classrooms. Child-occupied facilities may be located in target housing or in public or commercial buildings. With respect to common areas in public or commercial buildings that contain child-occupied facilities, the child-occupied facility encompasses only those common areas that are routinely used by children under age 6, such as restrooms and cafeterias. Common areas that children under age 6 only pass through, such as hallways, stairways, and garages are not included. In addition, with respect to exteriors of public or commercial buildings that contain child-occupied facilities, the child-occupied facility encompasses only the exterior sides of the building that are immediately adjacent to the child-occupied facility or the common areas routinely used by children under age 6.

Cleaning verification card means a card developed and distributed, or otherwise approved, by EPA for the purpose of determining, through comparison of wet and dry disposable cleaning cloths with the card, whether post-renovation cleaning has been properly completed.

Component or building component means specific design or structural elements or fixtures of a building or residential dwelling that are distinguished from each other by form, function, and location. These include, but are not limited to, interior components such as: Ceilings, crown molding, walls, chair rails, doors, door trim, floors, fireplaces, radiators and other heating units, shelves, shelf supports, stair treads, stair risers, stair stringers, newel posts, railing caps, balustrades, windows and trim (including sashes, window heads, jambs, sills or stools and troughs), built in cabinets, columns, beams, bathroom vanities, counter tops, and air conditioners; and exterior components such as: Painted roofing, chimneys, flashing, gutters and downspouts, ceilings, soffits, fascias, rake boards, cornerboards, bulkheads, doors and door trim, fences, floors, joists, lattice work, railings and railing caps, siding, handrails, stair risers and treads, stair stringers, columns, balustrades, windowsills or stools and troughs, casings, sashes and wells, and air conditioners.

Dry disposable cleaning cloth means a commercially available dry, electrostatically charged, white disposable cloth designed to be used for cleaning hard surfaces such as uncarpeted floors or counter tops.

Firm means a company, partnership, corporation, sole proprietorship or individual doing business, association, or other

business entity; a Federal, State, Tribal, or local government agency; or a nonprofit organization.

HEPA vacuum means a vacuum cleaner which has been designed with a high-efficiency particulate air (HEPA) filter as the last filtration stage. A HEPA filter is a filter that is capable of capturing particles of 0.3 microns with 99.97% efficiency. The vacuum cleaner must be designed so that all the air drawn into the machine is expelled through the HEPA filter with none of the air leaking past it.

Interim controls means a set of measures designed to temporarily reduce human exposure or likely exposure to lead-based paint hazards, including specialized cleaning, repairs, maintenance, painting, temporary containment, ongoing monitoring of lead-based paint hazards or potential hazards, and the establishment and operation of management and resident education programs.

Minor repair and maintenance activities are activities, including minor heating, ventilation or air conditioning work, electrical work, and plumbing, that disrupt 6 square feet or less of painted surface per room for interior activities or 20 square feet or less of painted surface for exterior activities where none of the work practices prohibited or restricted by [§ 745.85\(a\)\(3\)](#) are used and where the work does not involve window replacement or demolition of painted surface areas. When removing painted components, or portions of painted components, the entire surface area removed is the amount of painted surface disturbed. Jobs, other than emergency renovations, performed in the same room within the same 30 days must be considered the same job for the purpose of determining whether the job is a minor repair and maintenance activity.

Pamphlet means the EPA pamphlet titled *Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools* developed under section 406(a) of TSCA for use in complying with section 406(b) of TSCA, or any State or Tribal pamphlet approved by EPA pursuant to [40 CFR 745.326](#) that is developed for the same purpose. This includes reproductions of the pamphlet when copied in full and without revision or deletion of material from the pamphlet (except for the addition or revision of State or local sources of information). Before December 22, 2008, the term "pamphlet" also means any pamphlet developed by EPA under section 406(a) of TSCA or any State or Tribal pamphlet approved by EPA pursuant to [§ 745.326](#).

Person means any natural or judicial person including any individual, corporation, partnership, or association; any Indian Tribe, State, or political subdivision thereof; any interstate body; and any department, agency, or instrumentality of the Federal Government.

Recognized test kit means a commercially available kit recognized by EPA under [§ 745.88](#) as being capable of allowing a user to determine the presence of lead at levels equal to or in excess of 1.0 milligrams per square centimeter, or more than 0.5% lead by weight, in a paint chip, paint powder, or painted surface.

Renovation means the modification of any existing structure, or portion thereof, that results in the disturbance of painted surfaces, unless that activity is performed as part of an abatement as defined by this part ([40 CFR 745.223](#)). The term renovation includes (but is not limited to): The removal, modification or repair of painted surfaces or painted components (e.g., modification of painted doors, surface restoration, window repair, surface preparation activity (such as sanding, scraping, or other such activities that may generate paint dust)); the removal of building components (e.g., walls, ceilings, plumbing, windows); weatherization projects (e.g., cutting holes in painted surfaces to install blown-in insulation or to gain access to attics, planing thresholds to install weather-stripping), and interim controls that disturb painted surfaces. A renovation performed for the purpose of converting a building, or part of a building, into target housing or a child-occupied facility is a renovation under this subpart. The term renovation does not include minor repair and maintenance activities.

Renovator means an individual who either performs or directs workers who perform renovations. A certified renovator is a renovator who has successfully completed a renovator course accredited by EPA or an EPA-authorized State or Tribal program.



Training hour means at least 50 minutes of actual learning, including, but not limited to, time devoted to lecture, learning activities, small group activities, demonstrations, evaluations, and hands-on experience.

Wet disposable cleaning cloth means a commercially available, pre-moistened white disposable cloth designed to be used for cleaning hard surfaces such as uncarpeted floors or counter tops.

Wet mopping system means a device with the following characteristics: A long handle, a mop head designed to be used with disposable absorbent cleaning pads, a reservoir for cleaning solution, and a built-in mechanism for distributing or spraying the cleaning solution onto a floor, or a method of equivalent efficacy.

Work area means the area that the certified renovator establishes to contain the dust and debris generated by a renovation.

**§ 745.84 Information distribution requirements.**

(a) Renovations in dwelling units. No more than 60 days before beginning renovation activities in any residential dwelling unit of target housing, the firm performing the renovation must:

(1) Provide the owner of the unit with the pamphlet, and comply with one of the following:

(i) Obtain, from the owner, a written acknowledgment that the owner has received the pamphlet.

(ii) Obtain a certificate of mailing at least 7 days prior to the renovation.

(2) In addition to the requirements in paragraph (a)(1) of this section, if the owner does not occupy the dwelling unit, provide an adult occupant of the unit with the pamphlet, and comply with one of the following:

(i) Obtain, from the adult occupant, a written acknowledgment that the occupant has received the pamphlet; or certify in writing that a pamphlet has been delivered to the dwelling and that the firm performing the renovation has been unsuccessful in obtaining a written acknowledgment from an adult occupant. Such certification must include the address of the unit undergoing renovation, the date and method of delivery of the pamphlet, names of the persons delivering the pamphlet, reason for lack of acknowledgment (e.g., occupant refuses to sign, no adult occupant available), the signature of a representative of the firm performing the renovation, and the date of signature.

(ii) Obtain a certificate of mailing at least 7 days prior to the renovation.

(b) Renovations in common areas. No more than 60 days before beginning renovation activities in common areas of multi-unit target housing, the firm performing the renovation must:

(1) Provide the owner with the pamphlet, and comply with one of the following:

(i) Obtain, from the owner, a written acknowledgment that the owner has received the pamphlet.

(ii) Obtain a certificate of mailing at least 7 days prior to the renovation.

(2) Comply with one of the following.

(i) Notify in writing, or ensure written notification of, each affected unit and make the pamphlet available upon request prior to the start of renovation. Such notification shall be accomplished by distributing written notice to each affected

unit. The notice shall describe the general nature and locations of the planned renovation activities; the expected starting and ending dates; and a statement of how the occupant can obtain the pamphlet, at no charge, from the firm performing the renovation, or

(ii) While the renovation is ongoing, post informational signs describing the general nature and locations of the renovation and the anticipated completion date. These signs must be posted in areas where they are likely to be seen by the occupants of all of the affected units. The signs must be accompanied by a posted copy of the pamphlet or information on how interested occupants can review a copy of the pamphlet or obtain a copy from the renovation firm at no cost to occupants.

(3) Prepare, sign, and date a statement describing the steps performed to notify all occupants of the intended renovation activities and to provide the pamphlet.

(4) If the scope, locations, or expected starting and ending dates of the planned renovation activities change after the initial notification, and the firm provided written initial notification to each affected unit, the firm performing the renovation must provide further written notification to the owners and occupants providing revised information on the ongoing or planned activities. This subsequent notification must be provided before the firm performing the renovation initiates work beyond that which was described in the original notice.

(c) Renovations in child-occupied facilities. No more than 60 days before beginning renovation activities in any child-occupied facility, the firm performing the renovation must:

(1)(i) Provide the owner of the building with the pamphlet, and comply with one of the following:

(A) Obtain, from the owner, a written acknowledgment that the owner has received the pamphlet.

(B) Obtain a certificate of mailing at least 7 days prior to the renovation.

(ii) If the child-occupied facility is not the owner of the building, provide an adult representative of the child-occupied facility with the pamphlet, and comply with one of the following:

(A) Obtain, from the adult representative, a written acknowledgment that the adult representative has received the pamphlet; or certify in writing that a pamphlet has been delivered to the facility and that the firm performing the renovation has been unsuccessful in obtaining a written acknowledgment from an adult representative. Such certification must include the address of the child-occupied facility undergoing renovation, the date and method of delivery of the pamphlet, names of the persons delivering the pamphlet, reason for lack of acknowledgment (e.g., representative refuses to sign), the signature of a representative of the firm performing the renovation, and the date of signature.

(B) Obtain a certificate of mailing at least 7 days prior to the renovation.

(2) Provide the parents and guardians of children using the child-occupied facility with the pamphlet and information describing the general nature and locations of the renovation and the anticipated completion date by complying with one of the following:

(i) Mail or hand-deliver the pamphlet and the renovation information to each parent or guardian of a child using the child-occupied facility.

(ii) While the renovation is ongoing, post informational signs describing the general nature and locations of the

renovation and the anticipated completion date. These signs must be posted in areas where they can be seen by the parents or guardians of the children frequenting the child-occupied facility. The signs must be accompanied by a posted copy of the pamphlet or information on how interested parents or guardians can review a copy of the pamphlet or obtain a copy from the renovation firm at no cost to the parents or guardians.

(3) The renovation firm must prepare, sign, and date a statement describing the steps performed to notify all parents and guardians of the intended renovation activities and to provide the pamphlet.

(d) Written acknowledgment. The written acknowledgments required by paragraphs (a)(1)(i), (a)(2)(i), (b)(1)(i), (c)(1)(i)(A), and (c)(1)(ii)(A) of this section must:

(1) Include a statement recording the owner or occupant's name and acknowledging receipt of the pamphlet prior to the start of renovation, the address of the unit undergoing renovation, the signature of the owner or occupant as applicable, and the date of signature.

(2) Be either a separate sheet or part of any written contract or service agreement for the renovation.

(3) Be written in the same language as the text of the contract or agreement for the renovation or, in the case of non-owner occupied target housing, in the same language as the lease or rental agreement or the pamphlet.

#### **§ 745.85 Work practice standards.**

(a) Standards for renovation activities. Renovations must be performed by certified firms using certified renovators as directed in [§ 745.89](#). The responsibilities of certified firms are set forth in [§ 745.89\(d\)](#) and the responsibilities of certified renovators are set forth in [§ 745.90\(b\)](#).

(1) Occupant protection. Firms must post signs clearly defining the work area and warning occupants and other persons not involved in renovation activities to remain outside of the work area. To the extent practicable, these signs must be in the primary language of the occupants. These signs must be posted before beginning the renovation and must remain in place and readable until the renovation and the post-renovation cleaning verification have been completed. If warning signs have been posted in accordance with [24 CFR 35.1345\(b\)\(2\)](#) or [29 CFR 1926.62\(m\)](#), additional signs are not required by this section.

(2) Containing the work area. Before beginning the renovation, the firm must isolate the work area so that no dust or debris leaves the work area while the renovation is being performed. In addition, the firm must maintain the integrity of the containment by ensuring that any plastic or other impermeable materials are not torn or displaced, and taking any other steps necessary to ensure that no dust or debris leaves the work area while the renovation is being performed. The firm must also ensure that containment is installed in such a manner that it does not interfere with occupant and worker egress in an emergency.

(i) Interior renovations. The firm must:

(A) Remove all objects from the work area, including furniture, rugs, and window coverings, or cover them with plastic sheeting or other impermeable material with all seams and edges taped or otherwise sealed.

(B) Close and cover all ducts opening in the work area with taped-down plastic sheeting or other impermeable material.

(C) Close windows and doors in the work area. Doors must be covered with plastic sheeting or other impermeable

material. Doors used as an entrance to the work area must be covered with plastic sheeting or other impermeable material in a manner that allows workers to pass through while confining dust and debris to the work area.

(D) Cover the floor surface, including installed carpet, with taped-down plastic sheeting or other impermeable material in the work area 6 feet beyond the perimeter of surfaces undergoing renovation or a sufficient distance to contain the dust, whichever is greater.

(E) Use precautions to ensure that all personnel, tools, and other items, including the exteriors of containers of waste, are free of dust and debris before leaving the work area.

(ii) Exterior renovations. The firm must:

(A) Close all doors and windows within 20 feet of the renovation. On multi-story buildings, close all doors and windows within 20 feet of the renovation on the same floor as the renovation, and close all doors and windows on all floors below that are the same horizontal distance from the renovation.

(B) Ensure that doors within the work area that will be used while the job is being performed are covered with plastic sheeting or other impermeable material in a manner that allows workers to pass through while confining dust and debris to the work area.

(C) Cover the ground with plastic sheeting or other disposable impermeable material extending 10 feet beyond the perimeter of surfaces undergoing renovation or a sufficient distance to collect falling paint debris, whichever is greater, unless the property line prevents 10 feet of such ground covering.

(D) In certain situations, the renovation firm must take extra precautions in containing the work area to ensure that dust and debris from the renovation does not contaminate other buildings or other areas of the property or migrate to adjacent properties.

(3) Prohibited and restricted practices. The work practices listed below shall be prohibited or restricted during a renovation as follows:

(i) Open-flame burning or torching of lead-based paint is prohibited.

(ii) The use of machines that remove lead-based paint through high speed operation such as sanding, grinding, power planing, needle gun, abrasive blasting, or sandblasting, is prohibited unless such machines are used with HEPA exhaust control.

(iii) Operating a heat gun on lead-based paint is permitted only at temperatures below 1100 ° Fahrenheit.

(4) Waste from renovations--

(i) Waste from renovation activities must be contained to prevent releases of dust and debris before the waste is removed from the work area for storage or disposal. If a chute is used to remove waste from the work area, it must be covered.

(ii) At the conclusion of each work day and at the conclusion of the renovation, waste that has been collected from renovation activities must be stored under containment, in an enclosure, or behind a barrier that prevents release of dust and debris out of the work area and prevents access to dust and debris.

(iii) When the firm transports waste from renovation activities, the firm must contain the waste to prevent release of dust

and debris.

(5) Cleaning the work area. After the renovation has been completed, the firm must clean the work area until no dust, debris or residue remains.

(i) Interior and exterior renovations. The firm must:

(A) Collect all paint chips and debris and, without dispersing any of it, seal this material in a heavy-duty bag.

(B) Remove the protective sheeting. Mist the sheeting before folding it, fold the dirty side inward, and either tape shut to seal or seal in heavy-duty bags. Sheeting used to isolate contaminated rooms from non-contaminated rooms must remain in place until after the cleaning and removal of other sheeting. Dispose of the sheeting as waste.

(ii) Additional cleaning for interior renovations. The firm must clean all objects and surfaces in the work area and within 2 feet of the work area in the following manner, cleaning from higher to lower:

(A) Walls. Clean walls starting at the ceiling and working down to the floor by either vacuuming with a HEPA vacuum or wiping with a damp cloth.

(B) Remaining surfaces. Thoroughly vacuum all remaining surfaces and objects in the work area, including furniture and fixtures, with a HEPA vacuum. The HEPA vacuum must be equipped with a beater bar when vacuuming carpets and rugs.

(C) Wipe all remaining surfaces and objects in the work area, except for carpeted or upholstered surfaces, with a damp cloth. Mop uncarpeted floors thoroughly, using a mopping method that keeps the wash water separate from the rinse water, such as the 2-bucket mopping method, or using a wet mopping system.

(b) Standards for post-renovation cleaning verification--

(1) Interiors.

(i) A certified renovator must perform a visual inspection to determine whether dust, debris or residue is still present. If dust, debris or residue is present, these conditions must be removed by re-cleaning and another visual inspection must be performed.

(ii) After a successful visual inspection, a certified renovator must:

(A) Verify that each windowsill in the work area has been adequately cleaned, using the following procedure.

(1) Wipe the windowsill with a wet disposable cleaning cloth that is damp to the touch. If the cloth matches or is lighter than the cleaning verification card, the windowsill has been adequately cleaned.

(2) If the cloth does not match and is darker than the cleaning verification card, re-clean the windowsill as directed in paragraphs (a)(5)(ii)(B) and (a)(5)(ii)(C) of this section, then either use a new cloth or fold the used cloth in such a way that an unused surface is exposed, and wipe the surface again. If the cloth matches or is lighter than the cleaning verification card, that windowsill has been adequately cleaned.

(3) If the cloth does not match and is darker than the cleaning verification card, wait for 1 hour or until the surface has dried completely, whichever is longer.

(4) After waiting for the windowsill to dry, wipe the windowsill with a dry disposable cleaning cloth. After this wipe, the windowsill has been adequately cleaned.

(B) Wipe uncarpeted floors and countertops within the work area with a wet disposable cleaning cloth. Floors must be wiped using an application device with a long handle and a head to which the cloth is attached. The cloth must remain damp at all times while it is being used to wipe the surface for post-renovation cleaning verification. If the surface within the work area is greater than 40 square feet, the surface within the work area must be divided into roughly equal sections that are each less than 40 square feet. Wipe each such section separately with a new wet disposable cleaning cloth. If the cloth used to wipe each section of the surface within the work area matches the cleaning verification card, the surface has been adequately cleaned.

(1) If the cloth used to wipe a particular surface section does not match the cleaning verification card, re-clean that section of the surface as directed in paragraphs (a)(5)(ii)(B) and (a)(5)(ii)(C) of this section, then use a new wet disposable cleaning cloth to wipe that section again. If the cloth matches the cleaning verification card, that section of the surface has been adequately cleaned.

(2) If the cloth used to wipe a particular surface section does not match the cleaning verification card after the surface has been re-cleaned, wait for 1 hour or until the entire surface within the work area has dried completely, whichever is longer.

(3) After waiting for the entire surface within the work area to dry, wipe each section of the surface that has not yet achieved post-renovation cleaning verification with a dry disposable cleaning cloth. After this wipe, that section of the surface has been adequately cleaned.

(iii) When the work area passes the post-renovation cleaning verification, remove the warning signs.

(2) Exteriors. A certified renovator must perform a visual inspection to determine whether dust, debris or residue is still present on surfaces in and below the work area, including windowsills and the ground. If dust, debris or residue is present, these conditions must be eliminated and another visual inspection must be performed. When the area passes the visual inspection, remove the warning signs.

(c) Optional dust clearance testing. Cleaning verification need not be performed if the contract between the renovation firm and the person contracting for the renovation or another Federal, State, Territorial, Tribal, or local law or regulation requires:

(1) The renovation firm to perform dust clearance sampling at the conclusion of a renovation covered by this subpart.

(2) The dust clearance samples are required to be collected by a certified inspector, risk assessor or dust sampling technician.

(3) The renovation firm is required to re-clean the work area until the dust clearance sample results are below the clearance standards in [§ 745.227\(e\)\(8\)](#) or any applicable State, Territorial, Tribal, or local standard.

(d) Activities conducted after post-renovation cleaning verification. Activities that do not disturb paint, such as applying paint to walls that have already been prepared, are not regulated by this subpart if they are conducted after post-renovation cleaning verification has been performed.

#### **[§ 745.86 Recordkeeping and reporting requirements.](#)**

(a) Firms performing renovations must retain and, if requested, make available to EPA all records necessary to demonstrate compliance with this subpart for a period of 3 years following completion of the renovation. This 3-year retention requirement does not supersede longer obligations required by other provisions for retaining the same documentation, including any applicable State or Tribal laws or regulations.

(b) Records that must be retained pursuant to paragraph (a) of this section shall include (where applicable):

(1) Reports certifying that a determination had been made by an inspector (certified pursuant to either Federal regulations at [§ 745.226](#) or an EPA-authorized State or Tribal certification program) that lead-based paint is not present on the components affected by the renovation, as described in [§ 745.82\(b\)\(1\)](#).

(2) Signed and dated acknowledgments of receipt as described in [§ 745.84\(a\)\(1\)\(i\)](#), [\(a\)\(2\)\(i\)](#), [\(b\)\(1\)\(i\)](#), [\(c\)\(1\)\(i\)\(A\)](#), and [\(c\)\(1\)\(ii\)\(A\)](#).

(3) Certifications of attempted delivery as described in [§ 745.84\(a\)\(2\)\(i\)](#) and [\(c\)\(1\)\(ii\)\(A\)](#).

(4) Certificates of mailing as described in [§ 745.84\(a\)\(1\)\(ii\)](#), [\(a\)\(2\)\(ii\)](#), [\(b\)\(1\)\(ii\)](#), [\(c\)\(1\)\(i\)\(B\)](#), and [\(c\)\(1\)\(ii\)\(B\)](#).

(5) Records of notification activities performed regarding common area renovations, as described in [§ 745.84\(b\)\(3\)](#) and [\(b\)\(4\)](#), and renovations in child-occupied facilities, as described in [§ 745.84\(c\)\(2\)](#).

(6) Any signed and dated statements received from owner-occupants documenting that the requirements of [§ 745.85](#) do not apply. These statements must include a declaration that the renovation will occur in the owner's residence, a declaration that no children under age 6 reside there, a declaration that no pregnant woman resides there, a declaration that the housing is not a child-occupied facility, the address of the unit undergoing renovation, the owner's name, an acknowledgment by the owner that the work practices to be used during the renovation will not necessarily include all of the lead-safe work practices contained in EPA's renovation, repair, and painting rule, the signature of the owner, and the date of signature. These statements must be written in the same language as the text of the renovation contract, if any.

(7) Documentation of compliance with the requirements of [§ 745.85](#), including documentation that a certified renovator was assigned to the project, that the certified renovator provided on-the-job training for workers used on the project, that the certified renovator performed or directed workers who performed all of the tasks described in [§ 745.85\(a\)](#), and that the certified renovator performed the post-renovation cleaning verification described in [§ 745.85\(b\)](#). If the renovation firm was unable to comply with all of the requirements of this rule due to an emergency as defined in [§ 745.82](#), the firm must document the nature of the emergency and the provisions of the rule that were not followed. This documentation must include a copy of the certified renovator's training certificate, and a certification by the certified renovator assigned to the project that:

(i) Training was provided to workers (topics must be identified for each worker).

(ii) Warning signs were posted at the entrances to the work area.

(iii) If test kits were used, that the specified brand of kits was used at the specified locations and that the results were as specified.

(iv) The work area was contained by:

(A) Removing or covering all objects in the work area (interiors).

(B) Closing and covering all HVAC ducts in the work area (interiors).

(C) Closing all windows in the work area (interiors) or closing all windows in and within 20 feet of the work area (exteriors).

(D) Closing and sealing all doors in the work area (interiors) or closing and sealing all doors in and within 20 feet of the work area (exteriors).

(E) Covering doors in the work area that were being used to allow passage but prevent spread of dust.

(F) Covering the floor surface, including installed carpet, with taped-down plastic sheeting or other impermeable material in the work area 6 feet beyond the perimeter of surfaces undergoing renovation or a sufficient distance to contain the dust, whichever is greater (interiors) or covering the ground with plastic sheeting or other disposable impermeable material anchored to the building extending 10 feet beyond the perimeter of surfaces undergoing renovation or a sufficient distance to collect falling paint debris, whichever is greater, unless the property line prevents 10 feet of such ground covering, weighted down by heavy objects (exteriors).

(G) Installing (if necessary) vertical containment to prevent migration of dust and debris to adjacent property (exteriors).

(v) Waste was contained on-site and while being transported off-site.

(vi) The work area was properly cleaned after the renovation by:

(A) Picking up all chips and debris, misting protective sheeting, folding it dirty side inward, and taping it for removal.

(B) Cleaning the work area surfaces and objects using a HEPA vacuum and/or wet cloths or mops (interiors).

(vii) The certified renovator performed the post-renovation cleaning verification (the results of which must be briefly described, including the number of wet and dry cloths used).

(c) When test kits are used, the renovation firm must, within 30 days of the completion of the renovation, provide identifying information as to the manufacturer and model of the test kits used, a description of the components that were tested including their locations, and the test kit results to the person who contracted for the renovation.

(d) If dust clearance sampling is performed in lieu of cleaning verification as permitted by [§ 745.85\(c\)](#), the renovation firm must provide, within 30 days of the completion of the renovation, a copy of the dust sampling report to the person who contracted for the renovation.

#### **[§ 745.87 Enforcement and inspections.](#)**

(a) Failure or refusal to comply with any provision of this subpart is a violation of TSCA section 409 ([15 U.S.C. 2689](#)).

(b) Failure or refusal to establish and maintain records or to make available or permit access to or copying of records, as required by this subpart, is a violation of TSCA [sections 15](#) and 409 ([15 U.S.C. 2614](#) and [2689](#)).

(c) Failure or refusal to permit entry or inspection as required by [40 CFR 745.87](#) and TSCA [section 11](#) ([15 U.S.C. 2610](#)) is a violation of [sections 15](#) and 409 ([15 U.S.C. 2614](#) and [2689](#)).



(d) Violators may be subject to civil and criminal sanctions pursuant to TSCA [section 16 \(15 U.S.C. 2615\)](#) for each violation.

(e) Lead-based paint is assumed to be present at renovations covered by this subpart. EPA may conduct inspections and issue subpoenas pursuant to the provisions of TSCA [section 11 \(15 U.S.C. 2610\)](#) to ensure compliance with this subpart.

#### **§ 745.88 Recognized test kits.**

(a) Effective June 23, 2008, EPA recognizes the test kits that have been determined by National Institute of Standards and Technology research to meet the negative response criteria described in paragraph (c)(1) of this section. This recognition will last until EPA publicizes its recognition of the first test kit that meets both the negative response and positive response criteria in paragraph (c) of this section.

(b) No other test kits will be recognized until they are tested through EPA's Environmental Technology Verification Program or other equivalent EPA approved testing program.

(1) Effective September 1, 2008, to initiate the testing process, a test kit manufacturer must submit a sufficient number of kits, along with the instructions for using the kits, to EPA. The test kit manufacturer should first visit the following website for information on where to apply: [http:// www.epa.gov/etv/howtoapply.html](http://www.epa.gov/etv/howtoapply.html).

(2) After the kit has been tested through the Environmental Technology Verification Program or other equivalent approved EPA testing program, EPA will review the report to determine whether the required criteria have been met.

(3) Before September 1, 2010, test kits must meet only the negative response criteria in paragraph (c)(1) of this section. The recognition of kits that meet only this criteria will last until EPA publicizes its recognition of the first test kits that meets both of the criteria in paragraph (c) of this section.

(4) After September 1, 2010, test kits must meet both of the criteria in paragraph (c) of this section.

(5) If the report demonstrates that the kit meets the required criteria, EPA will issue a notice of recognition to the kit manufacturer, provide them with the report, and post the information on EPA's website.

(6) If the report demonstrates that the kit does not meet the required criteria, EPA will notify the kit manufacturer and provide them with the report.

(c) Response criteria--

(1) Negative response criteria. For paint containing lead at or above the regulated level, 1.0 mg/cm<sup>2</sup> or 0.5% by weight, a demonstrated probability (with 95% confidence) of a negative response less than or equal to 5% of the time.

(2) Positive response criteria. For paint containing lead below the regulated level, 1.0 mg/cm<sup>2</sup> or 0.5% by weight, a demonstrated probability (with 95% confidence) of a positive response less than or equal to 10% of the time.

#### **§ 745.89 Firm certification.**

(a) Initial certification.

(1) Firms that perform renovations for compensation must apply to EPA for certification to perform renovations or dust

sampling. To apply, a firm must submit to EPA a completed "Application for Firms," signed by an authorized agent of the firm, and pay at least the correct amount of fees. If a firm pays more than the correct amount of fees, EPA will reimburse the firm for the excess amount.

(2) After EPA receives a firm's application, EPA will take one of the following actions within 90 days of the date the application is received:

(i) EPA will approve a firm's application if EPA determines that it is complete and that the environmental compliance history of the firm, its principals, or its key employees does not show an unwillingness or inability to maintain compliance with environmental statutes or regulations. An application is complete if it contains all of the information requested on the form and includes at least the correct amount of fees. When EPA approves a firm's application, EPA will issue the firm a certificate with an expiration date not more than 5 years from the date the application is approved. EPA certification allows the firm to perform renovations covered by this section in any State or Indian Tribal area that does not have a renovation program that is authorized under subpart Q of this part.

(ii) EPA will request a firm to supplement its application if EPA determines that the application is incomplete. If EPA requests a firm to supplement its application, the firm must submit the requested information or pay the additional fees within 30 days of the date of the request.

(iii) EPA will not approve a firm's application if the firm does not supplement its application in accordance with paragraph (a)(2)(ii) of this section or if EPA determines that the environmental compliance history of the firm, its principals, or its key employees demonstrates an unwillingness or inability to maintain compliance with environmental statutes or regulations. EPA will send the firm a letter giving the reason for not approving the application. EPA will not refund the application fees. A firm may reapply for certification at any time by filing a new, complete application that includes the correct amount of fees.

(b) Re-certification. To maintain its certification, a firm must be re-certified by EPA every 5 years.

(1) Timely and complete application. To be re-certified, a firm must submit a complete application for re-certification. A complete application for re-certification includes a completed "Application for Firms" which contains all of the information requested by the form and is signed by an authorized agent of the firm, noting on the form that it is submitted as a re-certification. A complete application must also include at least the correct amount of fees. If a firm pays more than the correct amount of fees, EPA will reimburse the firm for the excess amount.

(i) An application for re-certification is timely if it is postmarked 90 days or more before the date the firm's current certification expires. If the firm's application is complete and timely, the firm's current certification will remain in effect until its expiration date or until EPA has made a final decision to approve or disapprove the re-certification application, whichever is later.

(ii) If the firm submits a complete re-certification application less than 90 days before its current certification expires, and EPA does not approve the application before the expiration date, the firm's current certification will expire and the firm will not be able to conduct renovations until EPA approves its re-certification application.

(iii) If the firm fails to obtain recertification before the firm's current certification expires, the firm must not perform renovations or dust sampling until it is certified anew pursuant to paragraph (a) of this section.

(2) EPA action on an application. After EPA receives a firm's application for re-certification, EPA will review the application and take one of the following actions within 90 days of receipt:

(i) EPA will approve a firm's application if EPA determines that it is timely and complete and that the environmental

compliance history of the firm, its principals, or its key employees does not show an unwillingness or inability to maintain compliance with environmental statutes or regulations. When EPA approves a firm's application for re-certification, EPA will issue the firm a new certificate with an expiration date 5 years from the date that the firm's current certification expires. EPA certification allows the firm to perform renovations or dust sampling covered by this section in any State or Indian Tribal area that does not have a renovation program that is authorized under subpart Q of this part.

(ii) EPA will request a firm to supplement its application if EPA determines that the application is incomplete.

(iii) EPA will not approve a firm's application if it is not received or is not complete as of the date that the firm's current certification expires, or if EPA determines that the environmental compliance history of the firm, its principals, or its key employees demonstrates an unwillingness or inability to maintain compliance with environmental statutes or regulations. EPA will send the firm a letter giving the reason for not approving the application. EPA will not refund the application fees. A firm may reapply for certification at any time by filing a new application and paying the correct amount of fees.

(c) Amendment of certification. A firm must amend its certification within 90 days of the date a change occurs to information included in the firm's most recent application. If the firm fails to amend its certification within 90 days of the date the change occurs, the firm may not perform renovations or dust sampling until its certification is amended.

(1) To amend a certification, a firm must submit a completed "Application for Firms," signed by an authorized agent of the firm, noting on the form that it is submitted as an amendment and indicating the information that has changed. The firm must also pay at least the correct amount of fees.

(2) If additional information is needed to process the amendment, or the firm did not pay the correct amount of fees, EPA will request the firm to submit the necessary information or fees. The firm's certification is not amended until the firm complies with the request.

(3) Amending a certification does not affect the certification expiration date.

(d) Firm responsibilities. Firms performing renovations must ensure that:

(1) All individuals performing renovation activities on behalf of the firm are either certified renovators or have been trained by a certified renovator in accordance with [§ 745.90](#).

(2) A certified renovator is assigned to each renovation performed by the firm and discharges all of the certified renovator responsibilities identified in [§ 745.90](#).

(3) All renovations performed by the firm are performed in accordance with the work practice standards in [§ 745.85](#).

(4) The pre-renovation education requirements of [§ 745.84](#) have been performed.

(5) The recordkeeping requirements of [§ 745.86](#) are met.

#### **[§ 745.90 Renovator certification and dust sampling technician certification.](#)**

(a) Renovator certification and dust sampling technician certification.

(1) To become a certified renovator or certified dust sampling technician, an individual must successfully complete the appropriate course accredited by EPA under [§ 745.225](#) or by a State or Tribal program that is authorized under subpart Q of this part. The course completion certificate serves as proof of certification. EPA renovator certification allows the

certified individual to perform renovations covered by this section in any State or Indian Tribal area that does not have a renovation program that is authorized under subpart Q of this part. EPA dust sampling technician certification allows the certified individual to perform dust clearance sampling under [§ 745.85\(c\)](#) in any State or Indian Tribal area that does not have a renovation program that is authorized under subpart Q of this part.

(2) Individuals who have successfully completed an accredited abatement worker or supervisor course, or individuals who have successfully completed an EPA, HUD, or EPA/HUD model renovation training course may take an accredited refresher renovator training course in lieu of the initial renovator training course to become a certified renovator.

(3) Individuals who have successfully completed an accredited lead-based paint inspector or risk assessor course may take an accredited refresher dust sampling technician course in lieu of the initial training to become a certified dust sampling technician.

(4) To maintain renovator certification or dust sampling technician certification, an individual must complete a renovator or dust sampling technician refresher course accredited by EPA under [§ 745.225](#) or by a State or Tribal program that is authorized under subpart Q of this part within 5 years of the date the individual completed the initial course described in paragraph (a)(1) of this section. If the individual does not complete a refresher course within this time, the individual must re-take the initial course to become certified again.

(b) Renovator responsibilities. Certified renovators are responsible for ensuring compliance with [§ 745.85](#) at all renovations to which they are assigned. A certified renovator:

(1) Must perform all of the tasks described in [§ 745.85\(b\)](#) and must either perform or direct workers who perform all of the tasks described in [§ 745.85\(a\)](#).

(2) Must provide training to workers on the work practices they will be using in performing their assigned tasks.

(3) Must be physically present at the work site when the signs required by [§ 745.85\(a\)\(1\)](#) are posted, while the work area containment required by [§ 745.85\(a\)\(2\)](#) is being established, and while the work area cleaning required by [§ 745.85\(a\)\(5\)](#) is performed.

(4) Must regularly direct work being performed by other individuals to ensure that the work practices are being followed, including maintaining the integrity of the containment barriers and ensuring that dust or debris does not spread beyond the work area.

(5) Must be available, either on-site or by telephone, at all times that renovations are being conducted.

(6) When requested by the party contracting for renovation services, must use an acceptable test kit to determine whether components to be affected by the renovation contain lead-based paint.

(7) Must have with them at the work site copies of their initial course completion certificate and their most recent refresher course completion certificate.

(8) Must prepare the records required by [§ 745.86\(b\)\(7\)](#).

(c) Dust sampling technician responsibilities. When performing optional dust clearance sampling under [§ 745.85\(c\)](#), a certified dust sampling technician:

(1) Must collect dust samples in accordance with [§ 745.227\(e\)\(8\)](#), must send the collected samples to a laboratory

recognized by EPA under TSCA section 405(b), and must compare the results to the clearance levels in accordance with [§ 745.227\(e\)\(8\)](#).

(2) Must have with them at the work site copies of their initial course completion certificate and their most recent refresher course completion certificate.

#### **§ 745.91 Suspending, revoking, or modifying an individual's or firm's certification.**

(a)(1) Grounds for suspending, revoking, or modifying an individual's certification. EPA may suspend, revoke, or modify an individual's certification if the individual fails to comply with Federal lead-based paint statutes or regulations. EPA may also suspend, revoke, or modify a certified renovator's certification if the renovator fails to ensure that all assigned renovations comply with [§ 745.85](#). In addition to an administrative or judicial finding of violation, execution of a consent agreement in settlement of an enforcement action constitutes, for purposes of this section, evidence of a failure to comply with relevant statutes or regulations.

(2) Grounds for suspending, revoking, or modifying a firm's certification. EPA may suspend, revoke, or modify a firm's certification if the firm:

(i) Submits false or misleading information to EPA in its application for certification or re-certification.

(ii) Fails to maintain or falsifies records required in [§ 745.86](#).

(iii) Fails to comply, or an individual performing a renovation on behalf of the firm fails to comply, with Federal lead-based paint statutes or regulations. In addition to an administrative or judicial finding of violation, execution of a consent agreement in settlement of an enforcement action constitutes, for purposes of this section, evidence of a failure to comply with relevant statutes or regulations.

(b) Process for suspending, revoking, or modifying certification.

(1) Prior to taking action to suspend, revoke, or modify an individual's or firm's certification, EPA will notify the affected entity in writing of the following:

(i) The legal and factual basis for the proposed suspension, revocation, or modification.

(ii) The anticipated commencement date and duration of the suspension, revocation, or modification.

(iii) Actions, if any, which the affected entity may take to avoid suspension, revocation, or modification, or to receive certification in the future.

(iv) The opportunity and method for requesting a hearing prior to final suspension, revocation, or modification.

(2) If an individual or firm requests a hearing, EPA will:

(i) Provide the affected entity an opportunity to offer written statements in response to EPA's assertions of the legal and factual basis for its proposed action.

(ii) Appoint an impartial official of EPA as Presiding Officer to conduct the hearing.

(3) The Presiding Officer will:

(i) Conduct a fair, orderly, and impartial hearing within 90 days of the request for a hearing.

(ii) Consider all relevant evidence, explanation, comment, and argument submitted.

(iii) Notify the affected entity in writing within 90 days of completion of the hearing of his or her decision and order. Such an order is a final agency action which may be subject to judicial review. The order must contain the commencement date and duration of the suspension, revocation, or modification.

(4) If EPA determines that the public health, interest, or welfare warrants immediate action to suspend the certification of any individual or firm prior to the opportunity for a hearing, it will:

(i) Notify the affected entity in accordance with paragraph (b)(1)(i) through (b)(1)(iii) of this section, explaining why it is necessary to suspend the entity's certification before an opportunity for a hearing.

(ii) Notify the affected entity of its right to request a hearing on the immediate suspension within 15 days of the suspension taking place and the procedures for the conduct of such a hearing.

(5) Any notice, decision, or order issued by EPA under this section, any transcript or other verbatim record of oral testimony, and any documents filed by a certified individual or firm in a hearing under this section will be available to the public, except as otherwise provided by [section 14](#) of TSCA or by part 2 of this title. Any such hearing at which oral testimony is presented will be open to the public, except that the Presiding Officer may exclude the public to the extent necessary to allow presentation of information which may be entitled to confidential treatment under [section 14](#) of TSCA or part 2 of this title.

(6) EPA will maintain a publicly available list of entities whose certification has been suspended, revoked, modified, or reinstated.

(7) Unless the decision and order issued under paragraph (b)(3)(iii) of this section specify otherwise:

(i) An individual whose certification has been suspended must take a refresher training course (renovator or dust sampling technician) in order to make his or her certification current.

(ii) An individual whose certification has been revoked must take an initial renovator or dust sampling technician course in order to become certified again.

(iii) A firm whose certification has been revoked must reapply for certification after the revocation ends in order to become certified again. If the firm's certification has been suspended and the suspension ends less than 5 years after the firm was initially certified or re-certified, the firm does not need to do anything to re-activate its certification.

#### **Subpart L. Lead-Based Paint Activities (Refs & Annos)**

##### **[§ 745.220 Scope and applicability.](#)**

(a) This subpart contains procedures and requirements for the accreditation of training programs for lead-based paint activities and renovations, procedures and requirements for the certification of individuals and firms engaged in lead-based paint activities, and work practice standards for performing such activities. This subpart also requires that, except as discussed below, all lead-based paint activities, as defined in this subpart, be performed by certified individuals and firms.

(b) This subpart applies to all individuals and firms who are engaged in lead-based paint activities as defined in [§ 745.223](#), except persons who perform these activities within residential dwellings that they own, unless the residential dwelling is occupied by a person or persons other than the owner or the owner's immediate family while these activities are being performed, or a child residing in the building has been identified as having an elevated blood lead level. This subpart applies only in those States or Indian Country that do not have an authorized State or Tribal program pursuant to [§ 745.324](#) of subpart Q.

(c) Each department, agency, and instrumentality of the executive, legislative, and judicial branches of the Federal Government having jurisdiction over any property or facility, or engaged in any activity resulting, or which may result, in a lead-based paint hazard, and each officer, agent, or employee thereof shall be subject to, and comply with, all Federal, State, interstate, and local requirements, both substantive and procedural, including the requirements of this subpart regarding lead-based paint, lead-based paint activities, and lead-based paint hazards.

(d) While this subpart establishes specific requirements for performing lead-based paint activities should they be undertaken, nothing in this subpart requires that the owner or occupant undertake any particular lead-based paint activity.

#### **[§ 745.223 Definitions.](#)**

The definitions in subpart A apply to this subpart. In addition, the following definitions apply.

Abatement means any measure or set of measures designed to permanently eliminate lead-based paint hazards. Abatement includes, but is not limited to:

(1) The removal of paint and dust, the permanent enclosure or encapsulation of lead-based paint, the replacement of painted surfaces or fixtures, or the removal or permanent covering of soil, when lead-based paint hazards are present in such paint, dust or soil; and

(2) All preparation, cleanup, disposal, and post-abatement clearance testing activities associated with such measures.

(3) Specifically, abatement includes, but is not limited to:

(i) Projects for which there is a written contract or other documentation, which provides that an individual or firm will be conducting activities in or to a residential dwelling or child-occupied facility that:

(A) Shall result in the permanent elimination of lead-based paint hazards; or

(B) Are designed to permanently eliminate lead-based paint hazards and are described in paragraphs (1) and (2) of this definition.

(ii) Projects resulting in the permanent elimination of lead-based paint hazards, conducted by firms or individuals certified in accordance with [§ 745.226](#), unless such projects are covered by paragraph (4) of this definition;

(iii) Projects resulting in the permanent elimination of lead-based paint hazards, conducted by firms or individuals who, through their company name or promotional literature, represent, advertise, or hold themselves out to be in the business of performing lead-based paint activities as identified and defined by this section, unless such projects are covered by paragraph (4) of this definition; or

(iv) Projects resulting in the permanent elimination of lead-based paint hazards, that are conducted in response to State or

local abatement orders.

(4) Abatement does not include renovation, remodeling, landscaping or other activities, when such activities are not designed to permanently eliminate lead-based paint hazards, but, instead, are designed to repair, restore, or remodel a given structure or dwelling, even though these activities may incidentally result in a reduction or elimination of lead-based paint hazards. Furthermore, abatement does not include interim controls, operations and maintenance activities, or other measures and activities designed to temporarily, but not permanently, reduce lead-based paint hazards.

Accredited training program means a training program that has been accredited by EPA pursuant to [§ 745.225](#) to provide training for individuals engaged in lead-based paint activities.

Adequate quality control means a plan or design which ensures the authenticity, integrity, and accuracy of samples, including dust, soil, and paint chip or paint film samples. Adequate quality control also includes provisions for representative sampling.

Business day means Monday through Friday with the exception of Federal holidays.

Certified firm means a company, partnership, corporation, sole proprietorship, association, or other business entity that performs lead-based paint activities to which EPA has issued a certificate of approval pursuant to [§ 745.226\(f\)](#).

Certified inspector means an individual who has been trained by an accredited training program, as defined by this section, and certified by EPA pursuant to [§ 745.226](#) to conduct inspections. A certified inspector also samples for the presence of lead in dust and soil for the purposes of abatement clearance testing.

Certified abatement worker means an individual who has been trained by an accredited training program, as defined by this section, and certified by EPA pursuant to [§ 745.226](#) to perform abatements.

Certified project designer means an individual who has been trained by an accredited training program, as defined by this section, and certified by EPA pursuant to [§ 745.226](#) to prepare abatement project designs, occupant protection plans, and abatement reports.

Certified risk assessor means an individual who has been trained by an accredited training program, as defined by this section, and certified by EPA pursuant to [§ 745.226](#) to conduct risk assessments. A risk assessor also samples for the presence of lead in dust and soil for the purposes of abatement clearance testing.

Certified supervisor means an individual who has been trained by an accredited training program, as defined by this section, and certified by EPA pursuant to [§ 745.226](#) to supervise and conduct abatements, and to prepare occupant protection plans and abatement reports.

Child-occupied facility means a building, or portion of a building, constructed prior to 1978, visited regularly by the same child, 6 years of age or under, on at least two different days within any week (Sunday through Saturday period), provided that each day's visit lasts at least 3 hours and the combined weekly visit lasts at least 6 hours, and the combined annual visits last at least 60 hours. Child-occupied facilities may include, but are not limited to, day-care centers, preschools and kindergarten classrooms.

Clearance levels are values that indicate the maximum amount of lead permitted in dust on a surface following completion of an abatement activity.

Common area means a portion of a building that is generally accessible to all occupants. Such an area may include, but is not limited to, hallways, stairways, laundry and recreational rooms, playgrounds, community centers, garages, and boundary



fences.

Component or building component means specific design or structural elements or fixtures of a building, residential dwelling, or child-occupied facility that are distinguished from each other by form, function, and location. These include, but are not limited to, interior components such as: ceilings, crown molding, walls, chair rails, doors, door trim, floors, fireplaces, radiators and other heating units, shelves, shelf supports, stair treads, stair risers, stair stringers, newel posts, railing caps, balustrades, windows and trim (including sashes, window heads, jambs, sills or stools and troughs), built in cabinets, columns, beams, bathroom vanities, counter tops, and air conditioners; and exterior components such as: painted roofing, chimneys, flashing, gutters and downspouts, ceilings, soffits, fascias, rake boards, cornerboards, bulkheads, doors and door trim, fences, floors, joists, lattice work, railings and railing caps, siding, handrails, stair risers and treads, stair stringers, columns, balustrades, window sills or stools and troughs, casings, sashes and wells, and air conditioners.

Containment means a process to protect workers and the environment by controlling exposures to the lead-contaminated dust and debris created during an abatement.

Course agenda means an outline of the key topics to be covered during a training course, including the time allotted to teach each topic.

Course test means an evaluation of the overall effectiveness of the training which shall test the trainees' knowledge and retention of the topics covered during the course.

Course test blue print means written documentation identifying the proportion of course test questions devoted to each major topic in the course curriculum.

Deteriorated paint means paint that is cracking, flaking, chipping, peeling, or otherwise separating from the substrate of a building component.

Discipline means one of the specific types or categories of lead-based paint activities identified in this subpart for which individuals may receive training from accredited programs and become certified by EPA. For example, "abatement worker" is a discipline.

Distinct painting history means the application history, as indicated by its visual appearance or a record of application, over time, of paint or other surface coatings to a component or room.

Documented methodologies are methods or protocols used to sample for the presence of lead in paint, dust, and soil.

Elevated blood lead level (EBL) means an excessive absorption of lead that is a confirmed concentration of lead in whole blood of  $20 \mu\text{g/dl}$  (micrograms of lead per deciliter of whole blood) for a single venous test or of  $15\text{-}19 \mu\text{g/dl}$  in two consecutive tests taken 3 to 4 months apart.

Encapsulant means a substance that forms a barrier between lead-based paint and the environment using a liquid-applied coating (with or without reinforcement materials) or an adhesively bonded covering material.

Encapsulation means the application of an encapsulant.

Enclosure means the use of rigid, durable construction materials that are mechanically fastened to the substrate in order to act as a barrier between lead-based paint and the environment.

Guest instructor means an individual designated by the training program manager or principal instructor to provide

instruction specific to the lecture, hands-on activities, or work practice components of a course.

Hands-on skills assessment means an evaluation which tests the trainees' ability to satisfactorily perform the work practices and procedures identified in [§ 745.225\(d\)](#), as well as any other skill taught in a training course.

Hazardous waste means any waste as defined in [40 CFR 261.3](#).

Inspection means a surface-by-surface investigation to determine the presence of lead-based paint and the provision of a report explaining the results of the investigation.

Interim certification means the status of an individual who has successfully completed the appropriate training course in a discipline from an accredited training program, as defined by this section, but has not yet received formal certification in that discipline from EPA pursuant to [§ 745.226](#). Interim certifications expire 6 months after the completion of the training course, and is equivalent to a certificate for the 6-month period.

Interim controls means a set of measures designed to temporarily reduce human exposure or likely exposure to lead-based paint hazards, including specialized cleaning, repairs, maintenance, painting, temporary containment, ongoing monitoring of lead-based paint hazards or potential hazards, and the establishment and operation of management and resident education programs.

Lead-based paint means paint or other surface coatings that contain lead equal to or in excess of 1.0 milligrams per square centimeter or more than 0.5 percent by weight.

Lead-based paint activities means, in the case of target housing and child-occupied facilities, inspection, risk assessment, and abatement, as defined in this subpart.

Lead-based paint activities courses means initial and refresher training courses (worker, supervisor, inspector, risk assessor, project designer) provided by accredited training programs.

Lead-based paint hazard means any condition that causes exposure to lead from lead-contaminated dust, lead-contaminated soil, or lead-contaminated paint that is deteriorated or present in accessible surfaces, friction surfaces, or impact surfaces that would result in adverse human health effects as identified by the Administrator pursuant to TSCA section 403.

Lead-hazard screen is a limited risk assessment activity that involves limited paint and dust sampling as described in [§ 745.227\(c\)](#).

Living area means any area of a residential dwelling used by one or more children age 6 and under, including, but not limited to, living rooms, kitchen areas, dens, play rooms, and children's bedrooms.

Local government means a county, city, town, borough, parish, district, association, or other public body (including an agency comprised of two or more of the foregoing entities) created under State law.

Multi-family dwelling means a structure that contains more than one separate residential dwelling unit, which is used or occupied, or intended to be used or occupied, in whole or in part, as the home or residence of one or more persons.

Nonprofit means an entity which has demonstrated to any branch of the Federal Government or to a State, municipal, tribal or territorial government, that no part of its net earnings inure to the benefit of any private shareholder or individual.

Paint in poor condition means more than 10 square feet of deteriorated paint on exterior components with large surface areas;

or more than 2 square feet of deteriorated paint on interior components with large surface areas (e.g., walls, ceilings, floors, doors); or more than 10 percent of the total surface area of the component is deteriorated on interior or exterior components with small surface areas (window sills, baseboards, soffits, trim).

Permanently covered soil means soil which has been separated from human contact by the placement of a barrier consisting of solid, relatively impermeable materials, such as pavement or concrete. Grass, mulch, and other landscaping materials are not considered permanent covering.

Person means any natural or judicial person including any individual, corporation, partnership, or association; any Indian Tribe, State, or political subdivision thereof; any interstate body; and any department, agency, or instrumentality of the Federal government.

Principal instructor means the individual who has the primary responsibility for organizing and teaching a particular course.

Recognized laboratory means an environmental laboratory recognized by EPA pursuant to TSCA section 405(b) as being capable of performing an analysis for lead compounds in paint, soil, and dust.

Reduction means measures designed to reduce or eliminate human exposure to lead-based paint hazards through methods including interim controls and abatement.

Residential dwelling means (1) a detached single family dwelling unit, including attached structures such as porches and stoops; or (2) a single family dwelling unit in a structure that contains more than one separate residential dwelling unit, which is used or occupied, or intended to be used or occupied, in whole or in part, as the home or residence of one or more persons.

Risk assessment means (1) an on-site investigation to determine the existence, nature, severity, and location of lead-based paint hazards, and (2) the provision of a report by the individual or the firm conducting the risk assessment, explaining the results of the investigation and options for reducing lead-based paint hazards.

Start date means the first day of any lead-based paint activities training course or lead-based paint abatement activity.

Start date provided to EPA means the start date included in the original notification or the most recent start date provided to EPA in an updated notification.

State means any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, the Canal Zone, American Samoa, the Northern Mariana Islands, or any other territory or possession of the United States.

Target housing means any housing constructed prior to 1978, except housing for the elderly or persons with disabilities (unless any one or more children age 6 years or under resides or is expected to reside in such housing for the elderly or persons with disabilities) or any 0-bedroom dwelling.

Training curriculum means an established set of course topics for instruction in an accredited training program for a particular discipline designed to provide specialized knowledge and skills.

Training hour means at least 50 minutes of actual learning, including, but not limited to, time devoted to lecture, learning activities, small group activities, demonstrations, evaluations, and/or hands-on experience.

Training manager means the individual responsible for administering a training program and monitoring the performance of principal instructors and guest instructors.

Training provider means any organization or entity accredited under [§ 745.225](#) to offer lead-based paint activities courses.

Visual inspection for clearance testing means the visual examination of a residential dwelling or a child-occupied facility following an abatement to determine whether or not the abatement has been successfully completed.

Visual inspection for risk assessment means the visual examination of a residential dwelling or a child-occupied facility to determine the existence of deteriorated lead-based paint or other potential sources of lead-based paint hazards.

**[§ 745.225 Accreditation of training programs: target housing and child-occupied facilities.](#)**

(a) Scope.

(1) A training program may seek accreditation to offer courses in any of the following disciplines: Inspector, risk assessor, supervisor, project designer, abatement worker, renovator, and dust sampling technician. A training program may also seek accreditation to offer refresher courses for each of the above listed disciplines.

(2) Training programs may first apply to EPA for accreditation of their lead-based paint activities courses or refresher courses pursuant to this section on or after August 31, 1998. Training programs may first apply to EPA for accreditation of their renovator or dust sampling technician courses or refresher courses pursuant to this section on or after April 22, 2009.

(3) A training program must not provide, offer, or claim to provide EPA-accredited lead-based paint activities courses without applying for and receiving accreditation from EPA as required under paragraph (b) of this section on or after March 1, 1999. A training program must not provide, offer, or claim to provide EPA-accredited renovator or dust sampling technician courses without applying for and receiving accreditation from EPA as required under paragraph (b) of this section on or after June 23, 2008.

(b) Application process. The following are procedures a training program must follow to receive EPA accreditation to offer lead-based paint activities courses, renovator courses, or dust sampling technician courses:

(1) A training program seeking accreditation shall submit a written application to EPA containing the following information:

(i) The training program's name, address, and telephone number.

(ii) A list of courses for which it is applying for accreditation. For the purposes of this section, courses taught in different languages are considered different courses, and each must independently meet the accreditation requirements.

(iii) A statement signed by the training program manager certifying that the training program meets the requirements established in paragraph (c) of this section. If a training program uses EPA-recommended model training materials, or training materials approved by a State or Indian Tribe that has been authorized by EPA under subpart Q of this part, the training program manager shall include a statement certifying that, as well.

(iv) If a training program does not use EPA-recommended model training materials or training materials approved by an authorized State or Indian Tribe, its application for accreditation shall also include:

(A) A copy of the student and instructor manuals, or other materials to be used for each course.

(B) A copy of the course agenda for each course.

(C) When applying for accreditation of a course in a language other than English, a signed statement from a qualified, independent translator that they had compared the course to the English language version and found the translation to be accurate.

(v) All training programs shall include in their application for accreditation the following:

(A) A description of the facilities and equipment to be used for lecture and hands-on training.

(B) A copy of the course test blueprint for each course.

(C) A description of the activities and procedures that will be used for conducting the assessment of hands-on skills for each course.

(D) A copy of the quality control plan as described in paragraph (c)(9) of this section.

(2) If a training program meets the requirements in paragraph (c) of this section, then EPA shall approve the application for accreditation no more than 180 days after receiving a complete application from the training program. In the case of approval, a certificate of accreditation shall be sent to the applicant. In the case of disapproval, a letter describing the reasons for disapproval shall be sent to the applicant. Prior to disapproval, EPA may, at its discretion, work with the applicant to address inadequacies in the application for accreditation. EPA may also request additional materials retained by the training program under paragraph (i) of this section. If a training program's application is disapproved, the program may reapply for accreditation at any time.

(3) A training program may apply for accreditation to offer courses or refresher courses in as many disciplines as it chooses. A training program may seek accreditation for additional courses at any time as long as the program can demonstrate that it meets the requirements of this section.

(4) A training program applying for accreditation must submit the appropriate fees in accordance with [§ 745.238](#).

(c) Requirements for the accreditation of training programs. For a training program to obtain accreditation from EPA to offer lead-based paint activities courses, renovator courses, or dust sampling technician courses, the program must meet the following requirements:

(1) The training program shall employ a training manager who has:

(i) At least 2 years of experience, education, or training in teaching workers or adults; or

(ii) A bachelor's or graduate degree in building construction technology, engineering, industrial hygiene, safety, public health, education, business administration or program management or a related field; or

(iii) Two years of experience in managing a training program specializing in environmental hazards; and

(iv) Demonstrated experience, education, or training in the construction industry including: lead or asbestos abatement, painting, carpentry, renovation, remodeling, occupational safety and health, or industrial hygiene.

(2) The training manager shall designate a qualified principal instructor for each course who has:

- (i) Demonstrated experience, education, or training in teaching workers or adults; and
  - (ii) Successfully completed at least 16 hours of any EPA-accredited or EPA-authorized State or Tribal-accredited lead-specific training; and
  - (iii) Demonstrated experience, education, or training in lead or asbestos abatement, painting, carpentry, renovation, remodeling, occupational safety and health, or industrial hygiene.
- (3) The principal instructor shall be responsible for the organization of the course and oversight of the teaching of all course material. The training manager may designate guest instructors as needed to provide instruction specific to the lecture, hands-on activities, or work practice components of a course.
- (4) The following documents shall be recognized by EPA as evidence that training managers and principal instructors have the education, work experience, training requirements or demonstrated experience, specifically listed in paragraphs (c)(1) and (c)(2) of this section. This documentation need not be submitted with the accreditation application, but, if not submitted, shall be retained by the training program as required by the recordkeeping requirements contained in paragraph (i) of this section. Those documents include the following:
- (i) Official academic transcripts or diploma as evidence of meeting the education requirements.
  - (ii) Resumes, letters of reference, or documentation of work experience, as evidence of meeting the work experience requirements.
  - (iii) Certificates from train-the-trainer courses and lead-specific training courses, as evidence of meeting the training requirements.
- (5) The training program shall ensure the availability of, and provide adequate facilities for, the delivery of the lecture, course test, hands-on training, and assessment activities. This includes providing training equipment that reflects current work practices and maintaining or updating the equipment and facilities as needed.
- (6) To become accredited in the following disciplines, the training program shall provide training courses that meet the following training hour requirements:
- (i) The inspector course shall last a minimum of 24 training hours, with a minimum of 8 hours devoted to hands-on training activities. The minimum curriculum requirements for the inspector course are contained in paragraph (d)(1) of this section.
  - (ii) The risk assessor course shall last a minimum of 16 training hours, with a minimum of 4 hours devoted to hands-on training activities. The minimum curriculum requirements for the risk assessor course are contained in paragraph (d)(2) of this section.
  - (iii) The supervisor course shall last a minimum of 32 training hours, with a minimum of 8 hours devoted to hands-on activities. The minimum curriculum requirements for the supervisor course are contained in paragraph (d)(3) of this section.
  - (iv) The project designer course shall last a minimum of 8 training hours. The minimum curriculum requirements for the project designer course are contained in paragraph (d)(4) of this section.

(v) The abatement worker course shall last a minimum of 16 training hours, with a minimum of 8 hours devoted to hands-on training activities. The minimum curriculum requirements for the abatement worker course are contained in paragraph (d)(5) of this section.

(vi) The renovator course must last a minimum of 8 training hours, with a minimum of 2 hours devoted to hands-on training activities. The minimum curriculum requirements for the renovator course are contained in paragraph (d)(6) of this section. Hands-on training activities must cover renovation methods that minimize the creation of dust and lead-based paint hazards, interior and exterior containment and cleanup methods, and post-renovation cleaning verification.

(vii) The dust sampling technician course must last a minimum of 8 training hours, with a minimum of 2 hours devoted to hands-on training activities. The minimum curriculum requirements for the dust sampling technician course are contained in paragraph (d)(7) of this section. Hands-on training activities must cover dust sampling methodologies.

(7) For each course offered, the training program shall conduct either a course test at the completion of the course, and if applicable, a hands-on skills assessment, or in the alternative, a proficiency test for that discipline. Each individual must successfully complete the hands-on skills assessment and receive a passing score on the course test to pass any course, or successfully complete a proficiency test.

(i) The training manager is responsible for maintaining the validity and integrity of the hands-on skills assessment or proficiency test to ensure that it accurately evaluates the trainees' performance of the work practices and procedures associated with the course topics contained in paragraph (d) of this section.

(ii) The training manager is responsible for maintaining the validity and integrity of the course test to ensure that it accurately evaluates the trainees' knowledge and retention of the course topics.

(iii) The course test shall be developed in accordance with the test blueprint submitted with the training accreditation application.

(8) The training program shall issue unique course completion certificates to each individual who passes the training course. The course completion certificate shall include:

(i) The name, a unique identification number, and address of the individual.

(ii) The name of the particular course that the individual completed.

(iii) Dates of course completion/test passage.

(iv) For initial inspector, risk assessor, project designer, supervisor, or abatement worker course completion certificates, the expiration date of interim certification, which is 6 months from the date of course completion.

(v) The name, address, and telephone number of the training program.

(vi) The language in which the course was taught.

(vii) For renovator and dust sampling technician course completion certificates, a photograph of the individual.

(9) The training manager shall develop and implement a quality control plan. The plan shall be used to maintain and improve the quality of the training program over time. This plan shall contain at least the following elements:

- (i) Procedures for periodic revision of training materials and the course test to reflect innovations in the field.
  - (ii) Procedures for the training manager's annual review of principal instructor competency.
- (10) Courses offered by the training program must teach the work practice standards contained in [§ 745.85](#) or [§ 745.227](#), as applicable, in such a manner that trainees are provided with the knowledge needed to perform the renovations or lead-based paint activities they will be responsible for conducting.
- (11) The training manager shall be responsible for ensuring that the training program complies at all times with all of the requirements in this section.
- (12) The training manager shall allow EPA to audit the training program to verify the contents of the application for accreditation as described in paragraph (b) of this section.
- (13) The training manager must provide notification of renovator, dust sampling technician, or lead-based paint activities courses offered.
- (i) The training manager must provide EPA with notification of all renovator, dust sampling technician, or lead-based paint activities courses offered. The original notification must be received by EPA at least 7 business days prior to the start date of any renovator, dust sampling technician, or lead-based paint activities course.
  - (ii) The training manager must provide EPA updated notification when renovator, dust sampling technician, or lead-based paint activities courses will begin on a date other than the start date specified in the original notification, as follows:
    - (A) For renovator, dust sampling technician, or lead-based paint activities courses beginning prior to the start date provided to EPA, an updated notification must be received by EPA at least 7 business days before the new start date.
    - (B) For renovator, dust sampling technician, or lead-based paint activities courses beginning after the start date provided to EPA, an updated notification must be received by EPA at least 2 business days before the start date provided to EPA.
  - (iii) The training manager must update EPA of any change in location of renovator, dust sampling technician, or lead-based paint activities courses at least 7 business days prior to the start date provided to EPA.
  - (iv) The training manager must update EPA regarding any course cancellations, or any other change to the original notification. Updated notifications must be received by EPA at least 2 business days prior to the start date provided to EPA.
  - (v) Each notification, including updates, must include the following:
    - (A) Notification type (original, update, cancellation).
    - (B) Training program name, EPA accreditation number, address, and telephone number.
    - (C) Course discipline, type (initial/ refresher), and the language in which instruction will be given.
    - (D) Date(s) and time(s) of training.



(E) Training location(s) telephone number, and address.

(F) Principal instructor's name.

(G) Training manager's name and signature.

(vi) Notification must be accomplished using any of the following methods: Written notification, or electronically using the Agency's Central Data Exchange (CDX). Written notification of renovator, dust sampling technician, or renovator, dust sampling technician, or lead-based paint activities course schedules can be accomplished by using either the sample form titled "Lead-Based Paint Activities Training Course Schedule" or a similar form containing the information required in paragraph (c)(13)(v) of this section. All written notifications must be delivered by U.S. Postal Service, fax, commercial delivery service, or hand delivery (persons submitting notification by U.S. Postal Service are reminded that they should allow 3 additional business days for delivery in order to ensure that EPA receives the notification by the required date). Instructions and sample forms can be obtained from the NLIC at 1-800-424-LEAD(5323), or on the Internet at <http://www.epa.gov/lead>.

(vii) Renovator, dust sampling technician, or lead-based paint activities courses must not begin on a date, or at a location other than that specified in the original notification unless an updated notification identifying a new start date or location is submitted, in which case the course must begin on the new start date and/or location specified in the updated notification.

(viii) No training program shall provide renovator, dust sampling technician, or lead-based paint activities courses without first notifying EPA of such activities in accordance with the requirements of this paragraph.

(14) The training manager must provide notification following completion of lead-based paint activities courses.

(i) The training manager must provide EPA notification after the completion of any lead-based paint activities course. This notice must be received by EPA no later than 10 business days following course completion.

(ii) The notification must include the following:

(A) Training program name, EPA accreditation number, address, and telephone number.

(B) Course discipline and type (initial/refresher).

(C) Date(s) of training.

(D) The following information for each student who took the course:

(1) Name.

(2) Address.

(3) Date of birth.

(4) Course completion certificate number.

(5) Course test score.

(6) A digital photograph of the student.

(E) Training manager's name and signature.

(iii) Notification must be accomplished using any of the following methods: Written notification, or electronically using the Agency's Central Data Exchange (CDX). Written notification following lead-based paint activities training courses can be accomplished by using either the sample form titled "Lead-Based Paint Activities Training Course Follow-up" or a similar form containing the information required in paragraph (c)(14)(ii) of this section. All written notifications must be delivered by U.S. Postal Service, fax, commercial delivery service, or hand delivery (persons submitting notification by U.S. Postal Service are reminded that they should allow 3 additional business days for delivery in order to ensure that EPA receives the notification by the required date). Instructions and sample forms can be obtained from the NLIC at 1-800-424-LEAD(5323), or on the Internet at [http:// www.epa.gov/lead](http://www.epa.gov/lead).

(d) Minimum training curriculum requirements. To become accredited to offer lead-based paint courses instruction in the specific disciplines listed below, training programs must ensure that their courses of study include, at a minimum, the following course topics. Requirements ending in an asterisk (\*) indicate areas that require hands-on activities as an integral component of the course.

(1) Inspector.

(i) Role and responsibilities of an inspector.

(ii) Background information on lead and its adverse health effects.

(iii) Background information on Federal, State, and local regulations and guidance that pertains to lead-based paint and lead-based paint activities.

(iv) Lead-based paint inspection methods, including selection of rooms and components for sampling or testing.\*

(v) Paint, dust, and soil sampling methodologies.\*

(vi) Clearance standards and testing, including random sampling.\*

(vii) Preparation of the final inspection report.\*

(viii) Recordkeeping.

(2) Risk assessor.

(i) Role and responsibilities of a risk assessor.

(ii) Collection of background information to perform a risk assessment.

(iii) Sources of environmental lead contamination such as paint, surface dust and soil, water, air, packaging, and food.

(iv) Visual inspection for the purposes of identifying potential sources of lead-based paint hazards.\*

- (v) Lead hazard screen protocol.
  - (vi) Sampling for other sources of lead exposure.\*
  - (vii) Interpretation of lead-based paint and other lead sampling results, including all applicable State or Federal guidance or regulations pertaining to lead-based paint hazards.\*
  - (viii) Development of hazard control options, the role of interim controls, and operations and maintenance activities to reduce lead-based paint hazards.
  - (ix) Preparation of a final risk assessment report.
- (3) Supervisor.
- (i) Role and responsibilities of a supervisor.
  - (ii) Background information on lead and its adverse health effects.
  - (iii) Background information on Federal, State, and local regulations and guidance that pertain to lead-based paint abatement.
  - (iv) Liability and insurance issues relating to lead-based paint abatement.
  - (v) Risk assessment and inspection report interpretation.\*
  - (vi) Development and implementation of an occupant protection plan and abatement report.
  - (vii) Lead-based paint hazard recognition and control.\*
  - (viii) Lead-based paint abatement and lead-based paint hazard reduction methods, including restricted practices.\*
  - (ix) Interior dust abatement/cleanup or lead-based paint hazard control and reduction methods.\*
  - (x) Soil and exterior dust abatement or lead-based paint hazard control and reduction methods.\*
  - (xi) Clearance standards and testing.
  - (xii) Cleanup and waste disposal.
  - (xiii) Recordkeeping.
- (4) Project designer.
- (i) Role and responsibilities of a project designer.
  - (ii) Development and implementation of an occupant protection plan for large scale abatement projects.

(iii) Lead-based paint abatement and lead-based paint hazard reduction methods, including restricted practices for large-scale abatement projects.

(iv) Interior dust abatement/cleanup or lead hazard control and reduction methods for large-scale abatement projects.

(v) Clearance standards and testing for large scale abatement projects.

(vi) Integration of lead-based paint abatement methods with modernization and rehabilitation projects for large scale abatement projects.

(5) Abatement worker.

(i) Role and responsibilities of an abatement worker.

(ii) Background information on lead and its adverse health effects.

(iii) Background information on Federal, State and local regulations and guidance that pertain to lead-based paint abatement.

(iv) Lead-based paint hazard recognition and control.\*

(v) Lead-based paint abatement and lead-based paint hazard reduction methods, including restricted practices.\*

(vi) Interior dust abatement methods/cleanup or lead-based paint hazard reduction.\*

(vii) Soil and exterior dust abatement methods or lead-based paint hazard reduction.\*

(6) Renovator.

(i) Role and responsibility of a renovator.

(ii) Background information on lead and its adverse health effects.

(iii) Background information on EPA, HUD, OSHA, and other Federal, State, and local regulations and guidance that pertains to lead-based paint and renovation activities.

(iv) Procedures for using acceptable test kits to determine whether paint is lead-based paint.

(v) Renovation methods to minimize the creation of dust and lead-based paint hazards.

(vi) Interior and exterior containment and cleanup methods.

(vii) Methods to ensure that the renovation has been properly completed, including cleaning verification, and clearance testing.

(viii) Waste handling and disposal.

(ix) Providing on-the-job training to other workers.

(x) Record preparation.

(7) Dust sampling technician.

(i) Role and responsibility of a dust sampling technician.

(ii) Background information on lead and its adverse health effects.

(iii) Background information on Federal, State, and local regulations and guidance that pertains to lead-based paint and renovation activities.

(iv) Dust sampling methodologies.

(v) Clearance standards and testing.

(vi) Report preparation.

(e) Requirements for the accreditation of refresher training programs. A training program may seek accreditation to offer refresher training courses in any of the following disciplines: Inspector, risk assessor, supervisor, project designer, abatement worker, renovator, and dust sampling technician. To obtain EPA accreditation to offer refresher training, a training program must meet the following minimum requirements:

(1) Each refresher course shall review the curriculum topics of the full-length courses listed under paragraph (d) of this section, as appropriate. In addition, to become accredited to offer refresher training courses, training programs shall ensure that their courses of study include, at a minimum, the following:

(i) An overview of current safety practices relating to lead-based paint in general, as well as specific information pertaining to the appropriate discipline.

(ii) Current laws and regulations relating to lead-based paint in general, as well as specific information pertaining to the appropriate discipline.

(iii) Current technologies relating to lead-based paint in general, as well as specific information pertaining to the appropriate discipline.

(2) Refresher courses for inspector, risk assessor, supervisor, and abatement worker must last a minimum of 8 training hours. Refresher courses for project designer, renovator, and dust sampling technician must last a minimum of 4 training hours.

(3) For each course offered, the training program shall conduct a hands-on assessment (if applicable), and at the completion of the course, a course test.

(4) A training program may apply for accreditation of a refresher course concurrently with its application for accreditation of the corresponding training course as described in paragraph (b) of this section. If so, EPA shall use the approval procedure described in paragraph (b) of this section. In addition, the minimum requirements contained in

paragraphs (c) (except for the requirements in paragraph (c)(6)), and (e)(1), (e)(2) and (e)(3) of this section shall also apply.

(5) A training program seeking accreditation to offer refresher training courses only shall submit a written application to EPA containing the following information:

(i) The refresher training program's name, address, and telephone number.

(ii) A list of courses for which it is applying for accreditation.

(iii) A statement signed by the training program manager certifying that the refresher training program meets the minimum requirements established in paragraph (c) of this section, except for the requirements in paragraph (c)(6) of this section. If a training program uses EPA-developed model training materials, or training materials approved by a State or Indian Tribe that has been authorized by EPA under [§ 745.324](#) to develop its refresher training course materials, the training manager shall include a statement certifying that, as well.

(iv) If the refresher training course materials are not based on EPA-developed model training materials or training materials approved by an authorized State or Indian Tribe, the training program's application for accreditation shall include:

(A) A copy of the student and instructor manuals to be used for each course.

(B) A copy of the course agenda for each course.

(v) All refresher training programs shall include in their application for accreditation the following:

(A) A description of the facilities and equipment to be used for lecture and hands-on training.

(B) A copy of the course test blueprint for each course.

(C) A description of the activities and procedures that will be used for conducting the assessment of hands-on skills for each course (if applicable).

(D) A copy of the quality control plan as described in paragraph (c)(9) of this section.

(vi) The requirements in paragraphs (c)(1) through (c)(5), and (c)(7) through (c)(14) of this section apply to refresher training providers.

(vii) If a refresher training program meets the requirements listed in this paragraph, then EPA shall approve the application for accreditation no more than 180 days after receiving a complete application from the refresher training program. In the case of approval, a certificate of accreditation shall be sent to the applicant. In the case of disapproval, a letter describing the reasons for disapproval shall be sent to the applicant. Prior to disapproval, EPA may, at its discretion, work with the applicant to address inadequacies in the application for accreditation. EPA may also request additional materials retained by the refresher training program under paragraph (i) of this section. If a refresher training program's application is disapproved, the program may reapply for accreditation at any time.

(f) Re-accreditation of training programs.

(1) Unless re-accredited, a training program's accreditation (including refresher training accreditation) shall expire 4

years after the date of issuance. If a training program meets the requirements of this section, the training program shall be re-accredited.

(2) A training program seeking re-accreditation shall submit an application to EPA no later than 180 days before its accreditation expires. If a training program does not submit its application for re-accreditation by that date, EPA cannot guarantee that the program will be re-accredited before the end of the accreditation period.

(3) The training program's application for re-accreditation shall contain:

(i) The training program's name, address, and telephone number.

(ii) A list of courses for which it is applying for re-accreditation.

(iii) A description of any changes to the training facility, equipment or course materials since its last application was approved that adversely affects the students ability to learn.

(iv) A statement signed by the program manager stating:

(A) That the training program complies at all times with all requirements in paragraphs (c) and (e) of this section, as applicable; and

(B) The recordkeeping and reporting requirements of paragraph (i) of this section shall be followed.

(v) A payment of appropriate fees in accordance with [§ 745.238](#).

(4) Upon request, the training program shall allow EPA to audit the training program to verify the contents of the application for re-accreditation as described in paragraph (f)(3) of this section.

(g) Suspension, revocation, and modification of accredited training programs.

(1) EPA may, after notice and an opportunity for hearing, suspend, revoke, or modify training program accreditation (including refresher training accreditation) if a training program, training manager, or other person with supervisory authority over the training program has:

(i) Misrepresented the contents of a training course to EPA and/or the student population.

(ii) Failed to submit required information or notifications in a timely manner.

(iii) Failed to maintain required records.

(iv) Falsified accreditation records, instructor qualifications, or other accreditation-related information or documentation.

(v) Failed to comply with the training standards and requirements in this section.

(vi) Failed to comply with Federal, State, or local lead-based paint statutes or regulations.

(vii) Made false or misleading statements to EPA in its application for accreditation or re-accreditation which EPA relied upon in approving the application.

(2) In addition to an administrative or judicial finding of violation, execution of a consent agreement in settlement of an enforcement action constitutes, for purposes of this section, evidence of a failure to comply with relevant statutes or regulations.

(h) Procedures for suspension, revocation or modification of training program accreditation.

(1) Prior to taking action to suspend, revoke, or modify the accreditation of a training program, EPA shall notify the affected entity in writing of the following:

(i) The legal and factual basis for the suspension, revocation, or modification.

(ii) The anticipated commencement date and duration of the suspension, revocation, or modification.

(iii) Actions, if any, which the affected entity may take to avoid suspension, revocation, or modification, or to receive accreditation in the future.

(iv) The opportunity and method for requesting a hearing prior to final EPA action to suspend, revoke or modify accreditation.

(v) Any additional information, as appropriate, which EPA may provide.

(2) If a hearing is requested by the accredited training program, EPA shall:

(i) Provide the affected entity an opportunity to offer written statements in response to EPA's assertions of the legal and factual basis for its proposed action, and any other explanations, comments, and arguments it deems relevant to the proposed action.

(ii) Provide the affected entity such other procedural opportunities as EPA may deem appropriate to ensure a fair and impartial hearing.

(iii) Appoint an official of EPA as Presiding Officer to conduct the hearing. No person shall serve as Presiding Officer if he or she has had any prior connection with the specific matter.

(3) The Presiding Officer appointed pursuant to paragraph (h)(2) of this section shall:

(i) Conduct a fair, orderly, and impartial hearing within 90 days of the request for a hearing.

(ii) Consider all relevant evidence, explanation, comment, and argument submitted.

(iii) Notify the affected entity in writing within 90 days of completion of the hearing of his or her decision and order. Such an order is a final agency action which may be subject to judicial review.

(4) If EPA determines that the public health, interest, or welfare warrants immediate action to suspend the accreditation of any training program prior to the opportunity for a hearing, it shall:

(i) Notify the affected entity of its intent to immediately suspend training program accreditation for the reasons listed in paragraph (g)(1) of this section. If a suspension, revocation, or modification notice has not previously been issued



pursuant to paragraph (g)(1) of this section, it shall be issued at the same time the emergency suspension notice is issued.

(ii) Notify the affected entity in writing of the grounds for the immediate suspension and why it is necessary to suspend the entity's accreditation before an opportunity for a suspension, revocation or modification hearing.

(iii) Notify the affected entity of the anticipated commencement date and duration of the immediate suspension.

(iv) Notify the affected entity of its right to request a hearing on the immediate suspension within 15 days of the suspension taking place and the procedures for the conduct of such a hearing.

(5) Any notice, decision, or order issued by EPA under this section, any transcripts or other verbatim record of oral testimony, and any documents filed by an accredited training program in a hearing under this section shall be available to the public, except as otherwise provided by [section 14](#) of TSCA or by part 2 of this title. Any such hearing at which oral testimony is presented shall be open to the public, except that the Presiding Officer may exclude the public to the extent necessary to allow presentation of information which may be entitled to confidential treatment under [section 14](#) of TSCA or part 2 of this title.

(6) The public shall be notified of the suspension, revocation, modification or reinstatement of a training program's accreditation through appropriate mechanisms.

(7) EPA shall maintain a list of parties whose accreditation has been suspended, revoked, modified or reinstated.

(i) Training program recordkeeping requirements.

(1) Accredited training programs shall maintain, and make available to EPA, upon request, the following records:

(i) All documents specified in paragraph (c)(4) of this section that demonstrate the qualifications listed in paragraphs (c)(1) and (c)(2) of this section of the training manager and principal instructors.

(ii) Current curriculum/course materials and documents reflecting any changes made to these materials.

(iii) The course test blueprint.

(iv) Information regarding how the hands-on assessment is conducted including, but not limited to:

(A) Who conducts the assessment.

(B) How the skills are graded.

(C) What facilities are used.

(D) The pass/fail rate.

(v) The quality control plan as described in paragraph (c)(9) of this section.

(vi) Results of the students' hands-on skills assessments and course tests, and a record of each student's course completion certificate.

(vii) Any other material not listed above in paragraphs (i)(1)(i) through (i)(1)(vi) of this section that was submitted to EPA as part of the program's application for accreditation.

(2) The training program shall retain these records at the address specified on the training program accreditation application (or as modified in accordance with paragraph (i)(3) of this section for a minimum of 3 years and 6 months.

(3) The training program shall notify EPA in writing within 30 days of changing the address specified on its training program accreditation application or transferring the records from that address.

**§ 745.226 Certification of individuals and firms engaged in lead-based paint activities: target housing and child-occupied facilities.**

(a) Certification of individuals.

(1) Individuals seeking certification by EPA to engage in lead-based paint activities must either:

(i) Submit to EPA an application demonstrating that they meet the requirements established in paragraphs (b) or (c) of this section for the particular discipline for which certification is sought; or

(ii) Submit to EPA an application with a copy of a valid lead-based paint activities certification (or equivalent) from a State or Tribal program that has been authorized by EPA pursuant to subpart Q of this part.

(2) Individuals may first apply to EPA for certification to engage in lead-based paint activities pursuant to this section on or after March 1, 1999.

(3) Following the submission of an application demonstrating that all the requirements of this section have been met, EPA shall certify an applicant as an inspector, risk assessor, supervisor, project designer, or abatement worker, as appropriate.

(4) Upon receiving EPA certification, individuals conducting lead-based paint activities shall comply with the work practice standards for performing the appropriate lead-based paint activities as established in [§ 745.227](#).

(5) It shall be a violation of TSCA for an individual to conduct any of the lead-based paint activities described in [§ 745.227](#) after March 1, 2000, if that individual has not been certified by EPA pursuant to this section to do so.

(6) Individuals applying for certification must submit the appropriate fees in accordance with [§ 745.238](#).

(b) Inspector, risk assessor or supervisor.

(1) To become certified by EPA as an inspector, risk assessor, or supervisor, pursuant to paragraph (a)(1)(i) of this section, an individual must:

(i) Successfully complete an accredited course in the appropriate discipline and receive a course completion certificate from an accredited training program.

(ii) Pass the certification exam in the appropriate discipline offered by EPA; and,

(iii) Meet or exceed the following experience and/or education requirements:

(A) Inspectors.

- (1) No additional experience and/or education requirements.
- (2) [Reserved]

(B) Risk assessors.

- (1) Successful completion of an accredited training course for inspectors; and
- (2) Bachelor's degree and 1 year of experience in a related field (e.g., lead, asbestos, environmental remediation work, or construction), or an Associates degree and 2 years experience in a related field (e.g., lead, asbestos, environmental remediation work, or construction); or
- (3) Certification as an industrial hygienist, professional engineer, registered architect and/or certification in a related engineering/health/environmental field (e.g., safety professional, environmental scientist); or
- (4) A high school diploma (or equivalent), and at least 3 years of experience in a related field (e.g., lead, asbestos, environmental remediation work or construction).

(C) Supervisor:

- (1) One year of experience as a certified lead-based paint abatement worker; or
- (2) At least 2 years of experience in a related field (e.g., lead, asbestos, or environmental remediation work) or in the building trades.

(2) The following documents shall be recognized by EPA as evidence of meeting the requirements listed in (b)(2)(iii) of this paragraph:

- (i) Official academic transcripts or diploma, as evidence of meeting the education requirements.
- (ii) Resumes, letters of reference, or documentation of work experience, as evidence of meeting the work experience requirements.
- (iii) Course completion certificates from lead-specific or other related training courses, issued by accredited training programs, as evidence of meeting the training requirements.

(3) In order to take the certification examination for a particular discipline an individual must:

- (i) Successfully complete an accredited course in the appropriate discipline and receive a course completion certificate from an accredited training program.
- (ii) Meet or exceed the education and/or experience requirements in paragraph (b)(1)(iii) of this section.

(4) The course completion certificate shall serve as interim certification for an individual until the next available opportunity to take the certification exam. Such interim certification shall expire 6 months after issuance.

(5) After passing the appropriate certification exam and submitting an application demonstrating that he/she meets the appropriate training, education, and/or experience prerequisites described in paragraph (b)(1) of this section, an individual shall be issued a certificate by EPA. To maintain certification, an individual must be re-certified as described in paragraph (e) of this section.

(6) An individual may take the certification exam no more than three times within 6 months of receiving a course completion certificate.

(7) If an individual does not pass the certification exam and receive a certificate within 6 months of receiving his/her course completion certificate, the individual must retake the appropriate course from an accredited training program before reapplying for certification from EPA.

(c) Abatement worker and project designer.

(1) To become certified by EPA as an abatement worker or project designer, pursuant to paragraph (a)(1)(i) of this section, an individual must:

(i) Successfully complete an accredited course in the appropriate discipline and receive a course completion certificate from an accredited training program.

(ii) Meet or exceed the following additional experience and/or education requirements:

(A) Abatement workers.

(1) No additional experience and/or education requirements.

(2) [Reserved]

(B) Project designers.

(1) Successful completion of an accredited training course for supervisors.

(2) Bachelor's degree in engineering, architecture, or a related profession, and 1 year of experience in building construction and design or a related field; or

(3) Four years of experience in building construction and design or a related field.

(2) The following documents shall be recognized by EPA as evidence of meeting the requirements listed in this paragraph:

(i) Official academic transcripts or diploma, as evidence of meeting the education requirements.

(ii) Resumes, letters of reference, or documentation of work experience, as evidence of meeting the work experience requirements.

(iii) Course completion certificates from lead-specific or other related training courses, issued by accredited training programs, as evidence of meeting the training requirements.

(3) The course completion certificate shall serve as an interim certification until certification from EPA is received, but shall be valid for no more than 6 months from the date of completion.

(4) After successfully completing the appropriate training courses and meeting any other qualifications described in paragraph (c)(1) of this section, an individual shall be issued a certificate from EPA. To maintain certification, an individual must be re-certified as described in paragraph (e) of this section.

(d) Certification based on prior training.

(1) Any individual who received training in a lead-based paint activity between October 1, 1990, and March 1, 1999 shall be eligible for certification by EPA under the alternative procedures contained in this paragraph. Individuals who have received lead-based paint activities training at an EPA-authorized State or Tribal accredited training program shall also be eligible for certification by EPA under the following alternative procedures:

(i) Applicants for certification as an inspector, risk assessor, or supervisor shall:

(A) Demonstrate that the applicant has successfully completed training or on-the-job training in the conduct of a lead-based paint activity.

(B) Demonstrate that the applicant meets or exceeds the education and/or experience requirements in paragraph (b)(1)(iii) of this section.

(C) Successfully complete an accredited refresher training course for the appropriate discipline.

(D) Pass a certification exam administered by EPA for the appropriate discipline.

(ii) Applicants for certification as an abatement worker or project designer shall:

(A) Demonstrate that the applicant has successfully completed training or on-the-job training in the conduct of a lead-based paint activity.

(B) Demonstrate that the applicant meets the education and/or experience requirements in paragraphs (c)(1) of this section; and

(C) Successfully complete an accredited refresher training course for the appropriate discipline.

(2) Individuals shall have until March 1, 2000, to apply to EPA for certification under the above procedures. After that date, all individuals wishing to obtain certification must do so through the procedures described in paragraph (a), and paragraph (b) or (c) of this section, according to the discipline for which certification is being sought.

(e) Re-certification.

(1) To maintain certification in a particular discipline, a certified individual shall apply to and be re-certified by EPA in that discipline by EPA either:

(i) Every 3 years if the individual completed a training course with a course test and hands-on assessment; or

(ii) every 5 years if the individual completed a training course with a proficiency test.

(2) An individual shall be re-certified if the individual successfully completes the appropriate accredited refresher training course and submits a valid copy of the appropriate refresher course completion certificate.

(3) Individuals applying for re-certification must submit the appropriate fees in accordance with [§ 745.238](#).

(f) Certification of firms.

(1) All firms which perform or offer to perform any of the lead-based paint activities described in [§ 745.227](#) after March 1, 2000, shall be certified by EPA.

(2) A firm seeking certification shall submit to EPA a letter attesting that the firm shall only employ appropriately certified employees to conduct lead-based paint activities, and that the firm and its employees shall follow the work practice standards in [§ 745.227](#) for conducting lead-based paint activities.

(3) From the date of receiving the firm's letter requesting certification, EPA shall have 90 days to approve or disapprove the firm's request for certification. Within that time, EPA shall respond with either a certificate of approval or a letter describing the reasons for a disapproval.

(4) The firm shall maintain all records pursuant to the requirements in [§ 745.227](#).

(5) Firms may first apply to EPA for certification to engage in lead-based paint activities pursuant to this section on or after March 1, 1999.

(6) Firms applying for certification must submit the appropriate fees in accordance with [§ 745.238](#).

(7) To maintain certification a firm shall submit appropriate fees in accordance with [§ 745.238](#) every 3 years.

(g) Suspension, revocation, and modification of certifications of individuals engaged in lead-based paint activities.

(1) EPA may, after notice and opportunity for hearing, suspend, revoke, or modify an individual's certification if an individual has:

(i) Obtained training documentation through fraudulent means.

(ii) Gained admission to and completed an accredited training program through misrepresentation of admission requirements.

(iii) Obtained certification through misrepresentation of certification requirements or related documents dealing with education, training, professional registration, or experience.

(iv) Performed work requiring certification at a job site without having proof of certification.

(v) Permitted the duplication or use of the individual's own certificate by another.

(vi) Performed work for which certification is required, but for which appropriate certification has not been received.

(vii) Failed to comply with the appropriate work practice standards for lead-based paint activities at [§ 745.227](#).

(viii) Failed to comply with Federal, State, or local lead-based paint statutes or regulations.

(2) In addition to an administrative or judicial finding of violation, for purposes of this section only, execution of a consent agreement in settlement of an enforcement action constitutes evidence of a failure to comply with relevant statutes or regulations.

(h) Suspension, revocation, and modification of certifications of firms engaged in lead-based paint activities.

(1) EPA may, after notice and opportunity for hearing, suspend, revoke, or modify a firm's certification if a firm has:

(i) Performed work requiring certification at a job site with individuals who are not certified.

(ii) Failed to comply with the work practice standards established in [§ 745.227](#).

(iii) Misrepresented facts in its letter of application for certification to EPA.

(iv) Failed to maintain required records.

(v) Failed to comply with Federal, State, or local lead-based paint statutes or regulations.

(2) In addition to an administrative or judicial finding of violation, for purposes of this section only, execution of a consent agreement in settlement of an enforcement action constitutes evidence of a failure to comply with relevant statutes or regulations.

(i) Procedures for suspension, revocation, or modification of the certification of individuals or firms.

(1) If EPA decides to suspend, revoke, or modify the certification of any individual or firm, it shall notify the affected entity in writing of the following:

(i) The legal and factual basis for the suspension, revocation, or modification.

(ii) The commencement date and duration of the suspension, revocation, or modification.

(iii) Actions, if any, which the affected entity may take to avoid suspension, revocation, or modification or to receive certification in the future.

(iv) The opportunity and method for requesting a hearing prior to final EPA action to suspend, revoke, or modify certification.

(v) Any additional information, as appropriate, which EPA may provide.

(2) If a hearing is requested by the certified individual or firm, EPA shall:

(i) Provide the affected entity an opportunity to offer written statements in response to EPA's assertion of the legal and factual basis and any other explanations, comments, and arguments it deems relevant to the proposed action.

(ii) Provide the affected entity such other procedural opportunities as EPA may deem appropriate to ensure a fair and impartial hearing.

(iii) Appoint an official of EPA as Presiding Officer to conduct the hearing. No person shall serve as Presiding Officer if he or she has had any prior connection with the specific matter.

(3) The Presiding Officer shall:

(i) Conduct a fair, orderly, and impartial hearing within 90 days of the request for a hearing;

(ii) Consider all relevant evidence, explanation, comment, and argument submitted; and

(iii) Notify the affected entity in writing within 90 days of completion of the hearing of his or her decision and order. Such an order is a final EPA action subject to judicial review.

(4) If EPA determines that the public health, interest, or welfare warrants immediate action to suspend the certification of any individual or firm prior to the opportunity for a hearing, it shall:

(i) Notify the affected entity of its intent to immediately suspend certification for the reasons listed in paragraph (h)(1) of this section. If a suspension, revocation, or modification notice has not previously been issued, it shall be issued at the same time the immediate suspension notice is issued.

(ii) Notify the affected entity in writing of the grounds upon which the immediate suspension is based and why it is necessary to suspend the entity's accreditation before an opportunity for a hearing to suspend, revoke, or modify the individual's or firm's certification.

(iii) Notify the affected entity of the commencement date and duration of the immediate suspension.

(iv) Notify the affected entity of its right to request a hearing on the immediate suspension within 15 days of the suspension taking place and the procedures for the conduct of such a hearing.

(5) Any notice, decision, or order issued by EPA under this section, transcript or other verbatim record of oral testimony, and any documents filed by a certified individual or firm in a hearing under this section shall be available to the public, except as otherwise provided by [section 14](#) of TSCA or by part 2 of this title. Any such hearing at which oral testimony is presented shall be open to the public, except that the Presiding Officer may exclude the public to the extent necessary to allow presentation of information which may be entitled to confidential treatment under [section 14](#) of TSCA or part 2 of this title.

**[§ 745.227 Work practice standards for conducting lead-based paint activities: target housing and child-occupied facilities.](#)**

(a) Effective date, applicability, and terms.

(1) Beginning on March 1, 2000, all lead-based paint activities shall be performed pursuant to the work practice standards contained in this section.

(2) When performing any lead-based paint activity described by the certified individual as an inspection, lead-hazard screen, risk assessment or abatement, a certified individual must perform that activity in compliance with the appropriate requirements below.



(3) Documented methodologies that are appropriate for this section are found in the following: The U.S. Department of Housing and Urban Development (HUD) Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing; the EPA Guidance on Residential Lead-Based Paint, Lead-Contaminated Dust, and Lead-Contaminated Soil; the EPA Residential Sampling for Lead: Protocols for Dust and Soil Sampling (EPA report number 7474-R-95-001); Regulations, guidance, methods or protocols issued by States and Indian Tribes that have been authorized by EPA; and other equivalent methods and guidelines.

(4) Clearance levels are appropriate for the purposes of this section may be found in the EPA Guidance on Residential Lead-Based Paint, Lead-Contaminated Dust, and Lead Contaminated Soil or other equivalent guidelines.

(b) Inspection.

(1) An inspection shall be conducted only by a person certified by EPA as an inspector or risk assessor and, if conducted, must be conducted according to the procedures in this paragraph.

(2) When conducting an inspection, the following locations shall be selected according to documented methodologies and tested for the presence of lead-based paint:

(i) In a residential dwelling and child-occupied facility, each component with a distinct painting history and each exterior component with a distinct painting history shall be tested for lead-based paint, except those components that the inspector or risk assessor determines to have been replaced after 1978, or to not contain lead-based paint; and

(ii) In a multi-family dwelling or child-occupied facility, each component with a distinct painting history in every common area, except those components that the inspector or risk assessor determines to have been replaced after 1978, or to not contain lead-based paint.

(3) Paint shall be sampled in the following manner:

(i) The analysis of paint to determine the presence of lead shall be conducted using documented methodologies which incorporate adequate quality control procedures; and/or

(ii) All collected paint chip samples shall be analyzed according to paragraph (f) of this section to determine if they contain detectable levels of lead that can be quantified numerically.

(4) The certified inspector or risk assessor shall prepare an inspection report which shall include the following information:

(i) Date of each inspection.

(ii) Address of building.

(iii) Date of construction.

(iv) Apartment numbers (if applicable).

(v) Name, address, and telephone number of the owner or owners of each residential dwelling or child-occupied facility.

(vi) Name, signature, and certification number of each certified inspector and/or risk assessor conducting testing.

(vii) Name, address, and telephone number of the certified firm employing each inspector and/or risk assessor, if applicable.

(viii) Each testing method and device and/or sampling procedure employed for paint analysis, including quality control data and, if used, the serial number of any x-ray fluorescence (XRF) device.

(ix) Specific locations of each painted component tested for the presence of lead-based paint.

(x) The results of the inspection expressed in terms appropriate to the sampling method used.

(c) Lead hazard screen.

(1) A lead hazard screen shall be conducted only by a person certified by EPA as a risk assessor.

(2) If conducted, a lead hazard screen shall be conducted as follows:

(i) Background information regarding the physical characteristics of the residential dwelling or child-occupied facility and occupant use patterns that may cause lead-based paint exposure to one or more children age 6 years and under shall be collected.

(ii) A visual inspection of the residential dwelling or child-occupied facility shall be conducted to:

(A) Determine if any deteriorated paint is present, and

(B) Locate at least two dust sampling locations.

(iii) If deteriorated paint is present, each surface with deteriorated paint, which is determined, using documented methodologies, to be in poor condition and to have a distinct painting history, shall be tested for the presence of lead.

(iv) In residential dwellings, two composite dust samples shall be collected, one from the floors and the other from the windows, in rooms, hallways or stairwells where one or more children, age 6 and under, are most likely to come in contact with dust.

(v) In multi-family dwellings and child-occupied facilities, in addition to the floor and window samples required in paragraph (c)(1)(iii) of this section, the risk assessor shall also collect composite dust samples from common areas where one or more children, age 6 and under, are most likely to come into contact with dust.

(3) Dust samples shall be collected and analyzed in the following manner:

(i) All dust samples shall be taken using documented methodologies that incorporate adequate quality control procedures.

(ii) All collected dust samples shall be analyzed according to paragraph (f) of this section to determine if they contain detectable levels of lead that can be quantified numerically.

(4) Paint shall be sampled in the following manner:

(i) The analysis of paint to determine the presence of lead shall be conducted using documented methodologies which incorporate adequate quality control procedures; and/or

(ii) All collected paint chip samples shall be analyzed according to paragraph (f) of this section to determine if they contain detectable levels of lead that can be quantified numerically.

(5) The risk assessor shall prepare a lead hazard screen report, which shall include the following information:

(i) The information required in a risk assessment report as specified in paragraph (d) of this section, including paragraphs (d)(11)(i) through (d)(11)(xiv), and excluding paragraphs (d)(11)(xv) through (d)(11)(xviii) of this section. Additionally, any background information collected pursuant to paragraph (c)(2)(i) of this section shall be included in the risk assessment report; and

(ii) Recommendations, if warranted, for a follow-up risk assessment, and as appropriate, any further actions.

(d) Risk assessment.

(1) A risk assessment shall be conducted only by a person certified by EPA as a risk assessor and, if conducted, must be conducted according to the procedures in this paragraph.

(2) A visual inspection for risk assessment of the residential dwelling or child-occupied facility shall be undertaken to locate the existence of deteriorated paint, assess the extent and causes of the deterioration, and other potential lead-based paint hazards.

(3) Background information regarding the physical characteristics of the residential dwelling or child-occupied facility and occupant use patterns that may cause lead-based paint exposure to one or more children age 6 years and under shall be collected.

(4) The following surfaces which are determined, using documented methodologies, to have a distinct painting history, shall be tested for the presence of lead:

(i) Each friction surface or impact surface with visibly deteriorated paint; and

(ii) All other surfaces with visibly deteriorated paint.

(5) In residential dwellings, dust samples (either composite or single-surface samples) from the interior window sill(s) and floor shall be collected and analyzed for lead concentration in all living areas where one or more children, age 6 and under, are most likely to come into contact with dust.

(6) For multi-family dwellings and child-occupied facilities, the samples required in paragraph (d)(4) of this section shall be taken. In addition, interior window sill and floor dust samples (either composite or single-surface samples) shall be collected and analyzed for lead concentration in the following locations:

(i) Common areas adjacent to the sampled residential dwelling or child-occupied facility; and

(ii) Other common areas in the building where the risk assessor determines that one or more children, age 6 and under, are likely to come into contact with dust.

(7) For child-occupied facilities, interior window sill and floor dust samples (either composite or single-surface samples) shall be collected and analyzed for lead concentration in each room, hallway or stairwell utilized by one or more children, age 6 and under, and in other common areas in the child-occupied facility where one or more children, age 6 and under, are likely to come into contact with dust.

(8) Soil samples shall be collected and analyzed for lead concentrations in the following locations:

- (i) Exterior play areas where bare soil is present; and
- (ii) The rest of the yard (i.e., non-play areas) where bare soil is present.
- (iii) Dripline/foundation areas where bare soil is present.

(9) Any paint, dust, or soil sampling or testing shall be conducted using documented methodologies that incorporate adequate quality control procedures.

(10) Any collected paint chip, dust, or soil samples shall be analyzed according to paragraph (f) of this section to determine if they contain detectable levels of lead that can be quantified numerically.

(11) The certified risk assessor shall prepare a risk assessment report which shall include the following information:

- (i) Date of assessment.
- (ii) Address of each building.
- (iii) Date of construction of buildings.
- (iv) Apartment number (if applicable).
- (v) Name, address, and telephone number of each owner of each building.
- (vi) Name, signature, and certification of the certified risk assessor conducting the assessment.
- (vii) Name, address, and telephone number of the certified firm employing each certified risk assessor if applicable.
- (viii) Name, address, and telephone number of each recognized laboratory conducting analysis of collected samples.
- (ix) Results of the visual inspection.
- (x) Testing method and sampling procedure for paint analysis employed.
- (xi) Specific locations of each painted component tested for the presence of lead.
- (xii) All data collected from on-site testing, including quality control data and, if used, the serial number of any XRF device.
- (xiii) All results of laboratory analysis on collected paint, soil, and dust samples.

(xiv) Any other sampling results.

(xv) Any background information collected pursuant to paragraph (d)(3) of this section.

(xvi) To the extent that they are used as part of the lead-based paint hazard determination, the results of any previous inspections or analyses for the presence of lead-based paint, or other assessments of lead-based paint-related hazards.

(xvii) A description of the location, type, and severity of identified lead-based paint hazards and any other potential lead hazards.

(xviii) A description of interim controls and/or abatement options for each identified lead-based paint hazard and a suggested prioritization for addressing each hazard. If the use of an encapsulant or enclosure is recommended, the report shall recommend a maintenance and monitoring schedule for the encapsulant or enclosure.

(e) Abatement.

(1) An abatement shall be conducted only by an individual certified by EPA, and if conducted, shall be conducted according to the procedures in this paragraph.

(2) A certified supervisor is required for each abatement project and shall be onsite during all work site preparation and during the post-abatement cleanup of work areas. At all other times when abatement activities are being conducted, the certified supervisor shall be onsite or available by telephone, pager or answering service, and able to be present at the work site in no more than 2 hours.

(3) The certified supervisor and the certified firm employing that supervisor shall ensure that all abatement activities are conducted according to the requirements of this section and all other Federal, State and local requirements.

(4) A certified firm must notify EPA of lead-based paint abatement activities as follows:

(i) Except as provided in paragraph (e)(4)(ii) of this section, EPA must be notified prior to conducting lead-based paint abatement activities. The original notification must be received by EPA at least 5 business days before the start date of any lead-based paint abatement activities.

(ii) Notification for lead-based paint abatement activities required in response to an elevated blood lead level (EBL) determination, or Federal, State, Tribal, or local emergency abatement order should be received by EPA as early as possible before, but must be received no later than the start date of the lead-based paint abatement activities. Should the start date and/or location provided to EPA change, an updated notification must be received by EPA on or before the start date provided to EPA. Documentation showing evidence of an EBL determination or a copy of the Federal/State/Tribal/local emergency abatement order must be included in the written notification to take advantage of this abbreviated notification period.

(iii) Except as provided in paragraph (e)(4)(ii) of this section, updated notification must be provided to EPA for lead-based paint abatement activities that will begin on a date other than the start date specified in the original notification, as follows:

(A) For lead-based paint abatement activities beginning prior to the start date provided to EPA an updated notification must be received by EPA at least 5 business days before the new start date included in the notification.

(B) For lead-based paint abatement activities beginning after the start date provided to EPA an updated notification must be received by EPA on or before the start date provided to EPA.

(iv) Except as provided in paragraph (e)(4)(ii) of this section, updated notification must be provided to EPA for any change in location of lead-based paint abatement activities at least 5 business days prior to the start date provided to EPA.

(v) Updated notification must be provided to EPA when lead-based paint abatement activities are canceled, or when there are other significant changes including, but not limited to, when the square footage or acreage to be abated changes by more than 20%. This updated notification must be received by EPA on or before the start date provided to EPA, or if work has already begun, within 24 hours of the change.

(vi) The following must be included in each notification:

(A) Notification type (original, updated, cancellation).

(B) Date when lead-based paint abatement activities will start.

(C) Date when lead-based paint abatement activities will end (approximation using best professional judgement).

(D) Firm's name, EPA certification number, address, telephone number.

(E) Type of building (e.g., single family dwelling, multi-family dwelling, child-occupied facilities) on/in which abatement work will be performed.

(F) Property name (if applicable).

(G) Property address including apartment or unit number(s) (if applicable) for abatement work.

(H) Documentation showing evidence of an EBL determination or a copy of the Federal/State/Tribal/local emergency abatement order, if using the abbreviated time period as described in paragraph (e)(4)(ii) of this section.

(I) Name and EPA certification number of the project supervisor.

(J) Approximate square footage/acreage to be abated.

(K) Brief description of abatement activities to be performed.

(L) Name, title, and signature of the representative of the certified firm who prepared the notification.

(vii) Notification must be accomplished using any of the following methods: Written notification, or electronically using the Agency's Central Data Exchange (CDX). Written notification can be accomplished using either the sample form titled "Notification of Lead-Based Paint Abatement Activities" or similar form containing the information required in paragraph (e)(4)(vi) of this section. All written notifications must be delivered by U.S. Postal Service, fax, commercial delivery service, or hand delivery (persons submitting notification by U.S. Postal Service are reminded that they should allow 3 additional business days for delivery in order to ensure that EPA receives the notification by the required date). Instructions and sample forms can be obtained from the NLIC at 1-800-424-LEAD(5323), or on the Internet at <http://www.epa.gov/lead>.

(viii) Lead-based paint abatement activities shall not begin on a date, or at a location other than that specified in either an original or updated notification, in the event of changes to the original notification.

(ix) No firm or individual shall engage in lead-based paint abatement activities, as defined in [§ 745.223](#), prior to notifying EPA of such activities according to the requirements of this paragraph.

(5) A written occupant protection plan shall be developed for all abatement projects and shall be prepared according to the following procedures:

(i) The occupant protection plan shall be unique to each residential dwelling or child-occupied facility and be developed prior to the abatement. The occupant protection plan shall describe the measures and management procedures that will be taken during the abatement to protect the building occupants from exposure to any lead-based paint hazards.

(ii) A certified supervisor or project designer shall prepare the occupant protection plan.

(6) The work practices listed below shall be restricted during an abatement as follows:

(i) Open-flame burning or torching of lead-based paint is prohibited;

(ii) Machine sanding or grinding or abrasive blasting or sandblasting of lead-based paint is prohibited unless used with High Efficiency Particulate Air (HEPA) exhaust control which removes particles of 0.3 microns or larger from the air at 99.97 percent or greater efficiency;

(iii) Dry scraping of lead-based paint is permitted only in conjunction with heat guns or around electrical outlets or when treating defective paint spots totaling no more than 2 square feet in any one room, hallway or stairwell or totaling no more than 20 square feet on exterior surfaces; and

(iv) Operating a heat gun on lead-based paint is permitted only at temperatures below 1100 degrees Fahrenheit.

(7) If conducted, soil abatement shall be conducted in one of the following ways:

(i) If the soil is removed:

(A) The soil shall be replaced by soil with a lead concentration as close to local background as practicable, but no greater than 400 ppm.

(B) The soil that is removed shall not be used as top soil at another residential property or child-occupied facility.

(ii) If soil is not removed, the soil shall be permanently covered, as defined in [§ 745.223](#).

(8) The following post-abatement clearance procedures shall be performed only by a certified inspector or risk assessor:

(i) Following an abatement, a visual inspection shall be performed to determine if deteriorated painted surfaces and/or visible amounts of dust, debris or residue are still present. If deteriorated painted surfaces or visible amounts of dust, debris or residue are present, these conditions must be eliminated prior to the continuation of the clearance procedures.

(ii) Following the visual inspection and any post-abatement cleanup required by paragraph (e)(8)(i) of this section,

clearance sampling for lead in dust shall be conducted. Clearance sampling may be conducted by employing single-surface sampling or composite sampling techniques.

(iii) Dust samples for clearance purposes shall be taken using documented methodologies that incorporate adequate quality control procedures.

(iv) Dust samples for clearance purposes shall be taken a minimum of 1 hour after completion of final post-abatement cleanup activities.

(v) The following post-abatement clearance activities shall be conducted as appropriate based upon the extent or manner of abatement activities conducted in or to the residential dwelling or child-occupied facility:

(A) After conducting an abatement with containment between abated and unabated areas, one dust sample shall be taken from one interior window sill and from one window trough (if present) and one dust sample shall be taken from the floors of each of no less than four rooms, hallways or stairwells within the containment area. In addition, one dust sample shall be taken from the floor outside the containment area. If there are less than four rooms, hallways or stairwells within the containment area, then all rooms, hallways or stairwells shall be sampled.

(B) After conducting an abatement with no containment, two dust samples shall be taken from each of no less than four rooms, hallways or stairwells in the residential dwelling or child-occupied facility. One dust sample shall be taken from one interior window sill and window trough (if present) and one dust sample shall be taken from the floor of each room, hallway or stairwell selected. If there are less than four rooms, hallways or stairwells within the residential dwelling or child-occupied facility then all rooms, hallways or stairwells shall be sampled.

(C) Following an exterior paint abatement, a visible inspection shall be conducted. All horizontal surfaces in the outdoor living area closest to the abated surface shall be found to be cleaned of visible dust and debris. In addition, a visual inspection shall be conducted to determine the presence of paint chips on the dripline or next to the foundation below any exterior surface abated. If paint chips are present, they must be removed from the site and properly disposed of, according to all applicable Federal, State and local requirements.

(vi) The rooms, hallways or stairwells selected for sampling shall be selected according to documented methodologies.

(vii) The certified inspector or risk assessor shall compare the residual lead level (as determined by the laboratory analysis) from each single surface dust sample with clearance levels in paragraph (e)(8)(viii) of this section for lead in dust on floors, interior window sills, and window troughs or from each composite dust sample with the applicable clearance levels for lead in dust on floors, interior window sills, and window troughs divided by half the number of subsamples in the composite sample. If the residual lead level in a single surface dust sample equals or exceeds the applicable clearance level or if the residual lead level in a composite dust sample equals or exceeds the applicable clearance level divided by half the number of subsamples in the composite sample, the components represented by the failed sample shall be recleaned and retested.

(viii) The clearance levels for lead in dust are  $40 \mu\text{g}/\text{ft}^2$  for floors,  $250 \mu\text{g}/\text{ft}^2$  for interior window sills, and  $400 \mu\text{g}/\text{ft}^2$  for window troughs.

(9) In a multi-family dwelling with similarly constructed and maintained residential dwellings, random sampling for the purposes of clearance may be conducted provided:

(i) The certified individuals who abate or clean the residential dwellings do not know which residential dwelling will be selected for the random sample.



(ii) A sufficient number of residential dwellings are selected for dust sampling to provide a 95 percent level of confidence that no more than 5 percent or 50 of the residential dwellings (whichever is smaller) in the randomly sampled population exceed the appropriate clearance levels.

(iii) The randomly selected residential dwellings shall be sampled and evaluated for clearance according to the procedures found in paragraph (e)(8) of this section.

(10) An abatement report shall be prepared by a certified supervisor or project designer. The abatement report shall include the following information:

(i) Start and completion dates of abatement.

(ii) The name and address of each certified firm conducting the abatement and the name of each supervisor assigned to the abatement project.

(iii) The occupant protection plan prepared pursuant to paragraph (e)(5) of this section.

(iv) The name, address, and signature of each certified risk assessor or inspector conducting clearance sampling and the date of clearance testing.

(v) The results of clearance testing and all soil analyses (if applicable) and the name of each recognized laboratory that conducted the analyses.

(vi) A detailed written description of the abatement, including abatement methods used, locations of rooms and/or components where abatement occurred, reason for selecting particular abatement methods for each component, and any suggested monitoring of encapsulants or enclosures.

(f) Collection and laboratory analysis of samples. Any paint chip, dust, or soil samples collected pursuant to the work practice standards contained in this section shall be:

(1) Collected by persons certified by EPA as an inspector or risk assessor; and

(2) Analyzed by a laboratory recognized by EPA pursuant to section 405(b) of TSCA as being capable of performing analyses for lead compounds in paint chip, dust, and soil samples.

(g) Composite dust sampling. Composite dust sampling may only be conducted in the situations specified in paragraphs (c) through (e) of this section. If such sampling is conducted, the following conditions shall apply:

(1) Composite dust samples shall consist of at least two subsamples;

(2) Every component that is being tested shall be included in the sampling; and

(3) Composite dust samples shall not consist of subsamples from more than one type of component.

(h) Determinations.

(1) Lead-based paint is present:

(i) On any surface that is tested and found to contain lead equal to or in excess of 1.0 milligrams per square centimeter or equal to or in excess of 0.5% by weight; and

(ii) On any surface like a surface tested in the same room equivalent that has a similar painting history and that is found to be lead-based paint.

(2) A paint-lead hazard is present:

(i) On any friction surface that is subject to abrasion and where the lead dust levels on the nearest horizontal surface underneath the friction surface (e.g., the window sill or floor) are equal to or greater than the dust hazard levels identified in [§ 745.227\(b\)](#);

(ii) On any chewable lead-based paint surface on which there is evidence of teeth marks;

(iii) Where there is any damaged or otherwise deteriorated lead-based paint on an impact surface that is caused by impact from a related building component (such as a door knob that knocks into a wall or a door that knocks against its door frame); and

(iv) If there is any other deteriorated lead-based paint in any residential building or child-occupied facility or on the exterior of any residential building or child-occupied facility.

(3) A dust-lead hazard is present in a residential dwelling or child occupied facility:

(i) In a residential dwelling on floors and interior window sills when the weighted arithmetic mean lead loading for all single surface or composite samples of floors and interior window sills are equal to or greater than 40  $\mu\text{g}/\text{ft}^2$  for floors and 250  $\mu\text{g}/\text{ft}^2$  for interior window sills, respectively;

(ii) On floors or interior window sills in an unsampled residential dwelling in a multi-family dwelling, if a dust-lead hazard is present on floors or interior window sills, respectively, in at least one sampled residential unit on the property; and

(iii) On floors or interior window sills in an unsampled common area in a multi-family dwelling, if a dust-lead hazard is present on floors or interior window sills, respectively, in at least one sampled common area in the same common area group on the property.

(4) A soil-lead hazard is present:

(i) In a play area when the soil-lead concentration from a composite play area sample of bare soil is equal to or greater than 400 parts per million; or

(ii) In the rest of the yard when the arithmetic mean lead concentration from a composite sample (or arithmetic mean of composite samples) of bare soil from the rest of the yard (i.e., non-play areas) for each residential building on a property is equal to or greater than 1,200 parts per million.

(i) Recordkeeping. All reports or plans required in this section shall be maintained by the certified firm or individual who prepared the report for no fewer than 3 years. The certified firm or individual also shall provide copies of these reports to the building owner who contracted for its services.

**§ 745.228 Accreditation of training programs: public and commercial buildings, bridges and superstructures [Reserved].**

**§ 745.229 Certification of individuals and firms engaged in lead-based paint activities: public and commercial buildings, bridges and superstructures [Reserved].**

**§ 745.230 Work practice standards for conducting lead-based paint activities: public and commercial buildings, bridges and superstructures [Reserved].**

**§ 745.233 Lead-based paint activities requirements.**

Lead-based paint activities, as defined in this part, shall only be conducted according to the procedures and work practice standards contained in [§ 745.227](#) of this subpart. No individual or firm may offer to perform or perform any lead-based paint activity as defined in this part, unless certified to perform that activity according to the procedures in [§ 745.226](#).

**§ 745.235 Enforcement.**

(a) Failure or refusal to comply with any requirement of [§§ 745.225, 745.226, 745.227, or 745.233](#) is a prohibited act under [sections 15](#) and 409 of TSCA ([15 U.S.C. 2614, 2689](#)).

(b) Failure or refusal to establish, maintain, provide, copy, or permit access to records or reports as required by [§§ 745.225, 745.226, or 745.227](#) is a prohibited act under [sections 15](#) and 409 of TSCA ([15 U.S.C. 2614, 2689](#)).

(c) Failure or refusal to permit entry or inspection as required by [§ 745.237](#) and [section 11](#) of TSCA ([15 U.S.C. 2610](#)) is a prohibited act under [sections 15](#) and 409 of TSCA ([15 U.S.C. 2614, 2689](#)).

(d) In addition to the above, any individual or firm that performs any of the following acts shall be deemed to have committed a prohibited act under [sections 15](#) and 409 of TSCA ([15 U.S.C. 2614, 2689](#)). These include the following:

(i) Obtaining certification through fraudulent representation;

(ii) Failing to obtain certification from EPA and performing work requiring certification at a job site; or

(iii) Fraudulently obtaining certification and engaging in any lead-based paint activities requiring certification.

(e) Violators are subject to civil and criminal sanctions pursuant to [section 16](#) of TSCA ([15 U.S.C. 2615](#)) for each violation.

**§ 745.237 Inspections.**

EPA may conduct reasonable inspections pursuant to the provisions of [section 11](#) of TSCA ([15 U.S.C. 2610](#)) to ensure compliance with this subpart.

**§ 745.238 Fees for accreditation and certification of lead-based paint activities.**

(a) Purpose. To establish and impose fees for certified individuals and firms engaged in lead-based paint activities and persons operating accredited training programs under section 402(a) of the Toxic Substances Control Act (TSCA).

(b) Persons who must pay fees. Fees in accordance with paragraph (c) of this section must be paid by:

(1) Training programs.

(i) All non-exempt training programs applying to EPA for the accreditation and re-accreditation of training programs in one or more of the following disciplines: inspector, risk assessor, supervisor, project designer, abatement worker.

(ii) Exemptions. No fee shall be imposed on any training program operated by a State, federally recognized Indian Tribe, local government, or nonprofit organization. This exemption does not apply to the certification of firms or individuals.

(2) Firms and individuals. All firms and individuals seeking certification and re-certification from EPA to engage in lead-based paint activities in one or more of the following disciplines: inspector, risk assessor, supervisor, project designer, abatement worker.

(c) Fee amounts--

(1) Certification and accreditation fees. Initial and renewal certification and accreditation fees are specified in the following table:

Certification and Accreditation Fee Levels

Training Program	Accreditation [FN1]	Re-accreditation [FN1] [every 4 years, see 40 CFR 745.225(f)(1) for details]
<b>Initial Course</b>		
Inspector	\$2,500	\$1,600
Risk assessor	\$1,760	\$1,150
Supervisor	\$3,250	\$2,050
Worker	\$1,760	\$1,150
Project designer	\$1,010	\$710
<b>Refresher Course</b>		
Inspector	\$1,010	\$710
Risk assessor	\$1,010	\$710
Supervisor	\$1,010	\$710
Worker	\$1,010	\$710
Project designer	\$640	\$490
<b>Lead-based Paint Activities-Individual</b>	<b>Certification [FN1]</b>	<b>Re-certification [FN1] [every 3 or 5 years, see 40 CFR 745.226(e)(1) for details]</b>
Inspector	\$400	\$350
Risk assessor	\$520	\$420
Supervisor	\$470	\$390
Worker	\$280	\$240
Project designer	\$470	\$390

Lead-based Paint Activities-Firm	Certification [FN1]	Certification [FN1] Renewal [every 3 years, see 40 CFR 745.226(f)(7) for details]
Firm	\$540	\$430

[FN1] Fees will be adjusted periodically based on adjustments accounting for changes in participation and operating costs.

(2) Certification examination fee. Individuals required to take a certification exam in accordance with [§ 745.226](#) will be assessed a fee of \$70 for each exam attempt.

(3) Multi-jurisdiction registration fee. An individual, firm, or training program certified or accredited by EPA may wish to provide training or perform lead-based paint activities in additional EPA-administered jurisdictions. A fee of \$35 per discipline will be assessed for each additional EPA-administered jurisdiction in which an individual, firm, or training program applies for certification/re-certification or accreditation/re-accreditation. For purposes of this multi-jurisdiction registration fee, an EPA-administered jurisdiction is either an individual state without an authorized program or all Indian Tribes without authorized programs that are within a given EPA Region.

(4) Lost identification card or certificate. A \$15 fee shall be charged for replacement of an identification card or certificate. (See replacement procedure in paragraph (e) of this section.)

(d) Application/payment procedure--

(1) Certification and re-certification in one or more EPA-administered jurisdiction--

(i) Individuals. Submit a completed application (titled "Application for Individuals to Conduct Lead-based Paint Activities"), the materials described at [§ 745.226](#), and the application fee(s) described in paragraph (c) of this section.

(ii) Firms. Submit a completed application (titled "Application for Firms to Conduct Lead-based Paint Activities"), the materials described at [§ 745.226](#), and the application fee(s) described in paragraph (c) of this section.

(2) Accreditation and re-accreditation in one or more EPA-administered jurisdiction. Submit a completed application (titled "Accreditation Application for Training Programs"), the materials described at [§ 745.225](#), and the application fee described in paragraph (c) of this section.

(3) Application forms. Application forms and instructions can be obtained from the National Lead Information Center at: 1-800-424-LEAD.

(e) Identification card replacement and certificate replacement.

(1) Parties seeking identification card or certificate replacement shall complete the applicable portions of the appropriate application in accordance with the instructions provided. The appropriate applications are:

(i) Individuals. "Application for Individuals to Conduct Lead-based Paint Activities."

(ii) Firms. "Application for Firms to Conduct Lead-based Paint Activities."

(iii) Training programs. "Accreditation Application for Training Programs."

(2) Submit application and payment in the amount specified in paragraph (c)(4) of this section in accordance with the instructions provided with the application package.

(f) Adjustment of fees.

(1) EPA will collect fees reflecting the costs associated with the administration and enforcement of subpart L of this part with the exception of costs associated with the accreditation of training programs operated by a State, federally recognized Indian Tribe, local government, and nonprofit organization. In order to do this, EPA will periodically adjust the fees to reflect changed economic conditions.

(2) The fees will be evaluated based on the cost to administer and enforce the program, and the number of applicants. New fee schedules will be published in the Federal Register.

(g) Failure to remit a fee.

(1) EPA will not provide certification, re-certification, accreditation, or re-accreditation for any individual, firm, or training program which does not remit fees described in paragraph (c) of this section in accordance with the procedures specified in paragraph (d) of this section.

(2) EPA will not replace identification cards or certificates for any individual, firm, or training program which does not remit fees described in paragraph (c) of this section in accordance with the procedures specified in paragraph (e) of this section.

#### **§ 745.239 Effective dates.**

This subpart L shall apply in any State or Indian Country that does not have an authorized program under subpart Q, effective August 31, 1998. In such States or Indian Country:

(a) Training programs shall not provide, offer or claim to provide training or refresher training for certification without accreditation from EPA pursuant to [§ 745.225](#) on or after March 1, 1999.

(b) No individual or firm shall perform, offer, or claim to perform lead-based paint activities, as defined in this subpart, without certification from EPA to conduct such activities pursuant to [§ 745.226](#) on or after March 1, 2000.

(c) All lead-based paint activities shall be performed pursuant to the work practice standards contained in [§ 745.227](#) on or after March 1, 2000.

#### **Subpart Q. State and Indian Tribal Programs (Refs & Annos)**

#### **§ 745.320 Scope and purpose.**

(a) This subpart establishes the requirements that State or Tribal programs must meet for authorization by the Administrator to administer and enforce the standards, regulations, or other requirements established under TSCA [section 402](#) and/or section 406 and establishes the procedures EPA will follow in approving, revising, and withdrawing approval of State or Tribal programs.

(b) For State or Tribal lead-based paint training and certification programs, a State or Indian Tribe may seek authorization to administer and enforce §§ 745.225, 745.226, and 745.227. The provisions of §§ 745.220, 745.223, 745.233, 745.235, 745.237, and 745.239 shall be applicable for the purposes of such program authorization.

(c) A State or Indian Tribe may seek authorization to administer and enforce all of the provisions of subpart E of this part, just the pre-renovation education provisions of subpart E of this part, or just the training, certification, accreditation, and work practice provisions of subpart E of this part. The provisions of §§ 745.324 and 745.326 apply for the purposes of such program authorizations.

(d) A State or Indian Tribe applying for program authorization may seek either interim approval or final approval of the compliance and enforcement portion of the State or Tribal lead-based paint program pursuant to the procedures at § 745.327(a).

(e) State or Tribal submissions for program authorization shall comply with the procedures set out in this subpart.

(f) Any State or Tribal program approved by the Administrator under this subpart shall at all times comply with the requirements of this subpart.

(g) In many cases States will lack authority to regulate activities in Indian Country. This lack of authority does not impair a State's ability to obtain full program authorization in accordance with this subpart. EPA will administer the program in Indian Country if neither the State nor Indian Tribe has been granted program authorization by EPA.

#### **§ 745.323 Definitions.**

The definitions in subpart A apply to this subpart. In addition, the definitions in § 745.223 and the following definitions apply:

Indian Country means (1) all land within the limits of any American Indian reservation under the jurisdiction of the U.S. government, notwithstanding the issuance of any patent, and including rights-of-way running throughout the reservation; (2) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or outside the limits of a State; and (3) all Indian allotments, the Indian titles which have not been extinguished, including rights-of-way running through the same.

Indian Tribe means any Indian Tribe, band, nation, or community recognized by the Secretary of the Interior and exercising substantial governmental duties and powers.

#### **§ 745.324 Authorization of State or Tribal programs.**

(a) Application content and procedures.

(1) Any State or Indian Tribe that seeks authorization from EPA to administer and enforce the provisions of subpart E or subpart L of this part must submit an application to the Administrator in accordance with this paragraph.

(2) Before developing an application for authorization, a State or Indian Tribe shall disseminate a public notice of intent to seek such authorization and provide an opportunity for a public hearing.

(3) A State or Tribal application shall include:

(i) A transmittal letter from the State Governor or Tribal Chairperson (or equivalent official) requesting program approval.

(ii) A summary of the State or Tribal program. This summary will be used to provide notice to residents of the

State or Tribe.

(iii) A description of the State or Tribal program in accordance with paragraph (b) of this section.

(iv) An Attorney General's or Tribal Counsel's (or equivalent) statement in accordance with paragraph (c) of this section.

(v) Copies of all applicable State or Tribal statutes, regulations, standards, and other materials that provide the State or Indian Tribe with the authority to administer and enforce a lead-based paint program.

(4) After submitting an application, the Agency will publish a Federal Register notice that contains an announcement of the receipt of the State or Tribal application, the summary of the program as provided by the State or Tribe, and a request for public comments to be mailed to the appropriate EPA Regional Office. This comment period shall last for no less than 45 days. EPA will consider these comments during its review of the State or Tribal application.

(5) Within 60 days of submission of a State or Tribal application, EPA will, if requested, conduct a public hearing in each State or Indian Country seeking program authorization and will consider all comments submitted at that hearing during the review of the State or Tribal application.

(b) Program description. A State or Indian Tribe seeking to administer and enforce a program under this subpart must submit a description of the program. The description of the State or Tribal program must include:

(1)(i) The name of the State or Tribal agency that is or will be responsible for administering and enforcing the program, the name of the official in that agency designated as the point of contact with EPA, and addresses and phone numbers where this official can be contacted.

(ii) Where more than one agency is or will be responsible for administering and enforcing the program, the State or Indian Tribe must designate a primary agency to oversee and coordinate administration and enforcement of the program and serve as the primary contact with EPA.

(iii) In the event that more than one agency is or will be responsible for administering and enforcing the program, the application must also include a description of the functions to be performed by each agency. The description shall explain and how the program will be coordinated by the primary agency to ensure consistency and effective administration of the program within the State or Indian Tribe.

(2) To demonstrate that the State or Tribal program is at least as protective as the Federal program, fulfilling the criteria in paragraph (e)(2)(i) of this section, the State or Tribal application must include:

(i) A description of the program that demonstrates that the program contains all of the elements specified in [§ 745.325](#), [§ 745.326](#), or both; and

(ii) An analysis of the State or Tribal program that compares the program to the Federal program in subpart E or subpart L of this part, or both. This analysis must demonstrate how the program is, in the State's or Indian Tribe's assessment, at least as protective as the elements in the Federal program at subpart E or subpart L of this part, or both. EPA will use this analysis to evaluate the protectiveness of the State or Tribal program in making its determination pursuant to paragraph (e)(2)(i) of this section.

(3) To demonstrate that the State or Tribal program provides adequate enforcement, fulfilling the criteria in paragraph (e)(2)(ii) of this section, the State or Tribal application must include a description of the State or Tribal lead-based paint compliance and enforcement program that demonstrates that the program contains all of the elements specified at [§ 745.327](#). This description shall include copies of all policies, certifications, plans, reports, and other materials that demonstrate that the State or Tribal program contains all of the elements



specified at [§ 745.327](#).

(4)(i) The program description for an Indian Tribe shall also include a map, legal description, or other information sufficient to identify the geographical extent of the territory over which the Indian Tribe exercises jurisdiction.

(ii) The program description for an Indian Tribe shall also include a demonstration that the Indian Tribe:

(A) Is recognized by the Secretary of the Interior.

(B) has an existing government exercising substantial governmental duties and powers.

(C) has adequate civil regulatory jurisdiction (as shown in the Tribal legal certification in paragraph (c)(2) of this section) over the subject matter and entities regulated.

(D) is reasonably expected to be capable of administering the Federal program for which it is seeking authorization.

(iii) If the Administrator has previously determined that an Indian Tribe has met the prerequisites in paragraphs (b)(4)(ii)(A) and (B) of this section for another EPA program, the Indian Tribe need provide only that information unique to the lead-based paint program required by paragraphs (b)(4)(ii)(C) and (D) of this section.

(c) Attorney General's statement.

(1) A State or Indian Tribe must submit a written statement signed by the Attorney General or Tribal Counsel (or equivalent) certifying that the laws and regulations of the State or Indian Tribe provide adequate legal authority to administer and enforce the State or Tribal program. This statement shall include citations to the specific statutes and regulations providing that legal authority.

(2) The Tribal legal certification (the equivalent to the Attorney General's statement) may also be submitted and signed by an independent attorney retained by the Indian Tribe for representation in matters before EPA or the courts pertaining to the Indian Tribe's program. The certification shall include an assertion that the attorney has the authority to represent the Indian Tribe with respect to the Indian Tribe's authorization application.

(3) If a State application seeks approval of its program to operate in Indian Country, the required legal certification shall include an analysis of the applicant's authority to implement its provisions in Indian Country. The applicant shall include a map delineating the area over which it seeks to operate the program.

(d) Program certification.

(1) At the time of submitting an application, a State may also certify to the Administrator that the State program meets the requirements contained in paragraphs (e)(2)(i) and (e)(2)(ii) of this section.

(2) If this certification is contained in a State's application, the program shall be deemed to be authorized by EPA until such time as the Administrator disapproves the program application or withdraws the program authorization. A program shall not be deemed authorized pursuant to this subpart to the extent that jurisdiction is asserted over Indian Country, including non-member fee lands within an Indian reservation.

(3) If the application does not contain such certification, the State program will be authorized only after the Administrator authorizes the program in accordance with paragraph (e) of this section.

(4) This certification shall take the form of a letter from the Governor or the Attorney General to the Administrator. The certification shall reference the program analysis in paragraph (b)(3) of this section as the

basis for concluding that the State program is at least as protective as the Federal program, and provides adequate enforcement.

(e) EPA approval.

(1) EPA will fully review and consider all portions of a State or Tribal application.

(2) Within 180 days of receipt of a complete State or Tribal application, the Administrator shall either authorize the program or disapprove the application. The Administrator shall authorize the program, after notice and the opportunity for public comment and a public hearing, only if the Administrator finds that:

(i) The State or Tribal program is at least as protective of human health and the environment as the corresponding Federal program under subpart E or subpart L of this part, or both; and

(ii) The State or Tribal program provides adequate enforcement.

(3) EPA shall notify in writing the State or Indian Tribe of the Administrator's decision to authorize the State or Tribal program or disapprove the State's or Indian Tribe's application.

(4) If the State or Indian Tribe applies for authorization of State or Tribal programs under both subpart E and subpart L, EPA may, as appropriate, authorize one program and disapprove the other.

(f) EPA administration and enforcement.

(1) If a State or Indian Tribe does not have an authorized program to administer and enforce subpart L of this part in effect by August 31, 1998, the Administrator shall, by such date, establish and enforce the provisions of subpart L of this part as the Federal program for that State or Indian Country.

(2) If a State or Indian Tribe does not have an authorized program to administer and enforce the pre-renovation education requirements of subpart E of this part by August 31, 1998, the Administrator will, by such date, enforce those provisions of subpart E of this part as the Federal program for that State or Indian Country. If a State or Indian Tribe does not have an authorized program to administer and enforce the training, certification and accreditation requirements and work practice standards of subpart E of this part by April 22, 2009, the Administrator will, by such date, enforce those provisions of subpart E of this part as the Federal program for that State or Indian Country.

(3) Upon authorization of a State or Tribal program, pursuant to paragraph (d) or (e) of this section, it shall be an unlawful act under [sections 15](#) and 409 of TSCA for any person to fail or refuse to comply with any requirements of such program.

(g) Oversight. EPA shall periodically evaluate the adequacy of a State's or Indian Tribe's implementation and enforcement of its authorized programs.

(h) Reports. Beginning 12 months after the date of program authorization, the primary agency for each State or Indian Tribe that has an authorized program shall submit a written report to the EPA Regional Administrator for the Region in which the State or Indian Tribe is located. This report shall be submitted at least once every 12 months for the first 3 years after program authorization. If these reports demonstrate successful program implementation, the Agency will automatically extend the reporting interval to every 2 years. If the subsequent reports demonstrate problems with implementation, EPA will require a return to annual reporting until the reports demonstrate successful program implementation, at which time the Agency will extend the reporting interval to every 2 years.

The report shall include the following information:

(1) Any significant changes in the content or administration of the State or Tribal program implemented since the previous reporting period; and

(2) All information regarding the lead-based paint enforcement and compliance activities listed at [§ 745.327\(d\)](#) "Summary on Progress and Performance."

(i) Withdrawal of authorization.

(1) If EPA concludes that a State or Indian Tribe is not administering and enforcing an authorized program in compliance with the standards, regulations, and other requirements of [sections 401](#) through [412](#) of TSCA and this subpart, the Administrator shall notify the primary agency for the State or Indian Tribe in writing and indicate EPA's intent to withdraw authorization of the program.

(2) The Notice of Intent to Withdraw shall:

(i) Identify the program aspects that EPA believes are inadequate and provide a factual basis for such findings.

(ii) Include copies of relevant documents.

(iii) Provide an opportunity for the State or Indian Tribe to respond either in writing or at a meeting with appropriate EPA officials.

(3) EPA may request that an informal conference be held between representatives of the State or Indian Tribe and EPA officials.

(4) Prior to issuance of a withdrawal, a State or Indian Tribe may request that EPA hold a public hearing. At this hearing, EPA, the State or Indian Tribe, and the public may present facts bearing on whether the State's or Indian Tribe's authorization should be withdrawn.

(5) If EPA finds that deficiencies warranting withdrawal did not exist or were corrected by the State or Indian Tribe, EPA may rescind its Notice of Intent to Withdraw authorization.

(6) Where EPA finds that deficiencies in the State or Tribal program exist that warrant withdrawal, an agreement to correct the deficiencies shall be jointly prepared by the State or Indian Tribe and EPA. The agreement shall describe the deficiencies found in the program, specify the steps the State or Indian Tribe has taken or will take to remedy the deficiencies, and establish a schedule, no longer than 180 days, for each remedial action to be initiated.

(7) If the State or Indian Tribe does not respond within 60 days of issuance of the Notice of Intent to Withdraw or an agreement is not reached within 180 days after EPA determines that a State or Indian Tribe is not in compliance with the Federal program, the Agency shall issue an order withdrawing the State's or Indian Tribe's authorization.

(8) By the date of such order, the Administrator will establish and enforce the provisions of subpart E or subpart L of this part, or both, as the Federal program for that State or Indian Country.

#### **§ 745.325 Lead-based paint activities: State and Tribal program requirements.**

(a) Program elements. To receive authorization from EPA, a State or Tribal program must contain at least the following program elements for lead-based paint activities:

(1) Procedures and requirements for the accreditation of lead-based paint activities training programs.

- (2) Procedures and requirements for the certification of individuals engaged in lead-based paint activities.
  - (3) Work practice standards for the conduct of lead-based paint activities.
  - (4) Requirements that all lead-based paint activities be conducted by appropriately certified contractors.
  - (5) Development of the appropriate infrastructure or government capacity to effectively carry out a State or Tribal program.
- (b) Accreditation of training programs. The State or Indian Tribe must have either:
- (1) Procedures and requirements for the accreditation of training programs that establish:
    - (i) Requirements for the accreditation of training programs, including but not limited to:
      - (A) Training curriculum requirements.
      - (B) Training hour requirements.
      - (C) Hands-on training requirements.
      - (D) Trainee competency and proficiency requirements.
      - (E) Requirements for training program quality control.
    - (ii) Procedures for the re-accreditation of training programs.
    - (iii) Procedures for the oversight of training programs.
    - (iv) Procedures for the suspension, revocation, or modification of training program accreditations; or
  - (2) Procedures or regulations, for the purposes of certification, for the acceptance of training offered by an accredited training provider in a State or Tribe authorized by EPA.
- (c) Certification of individuals. The State or Indian Tribe must have requirements for the certification of individuals that:
- (1) Ensure that certified individuals:
    - (i) Are trained by an accredited training program; and
    - (ii) Possess appropriate education or experience qualifications for certification.
  - (2) Establish procedures for re-certification.
  - (3) Require the conduct of lead-based paint activities in accordance with work practice standards established by the State or Indian Tribe.
  - (4) Establish procedures for the suspension, revocation, or modification of certifications.

(5) Establish requirements and procedures for the administration of a third-party certification exam.

(d) Work practice standards for the conduct of lead-based paint activities. The State or Indian Tribe must have requirements or standards that ensure that lead-based paint activities are conducted reliably, effectively, and safely. At a minimum the State's or Indian Tribe's work practice standards for conducting inspections, risk assessments, and abatements must contain the requirements specified in paragraphs (d)(1), (d)(2), and (d)(3) of this section.

(1) The work practice standards for the inspection for the presence of lead-based paint must require that:

(i) Inspections are conducted only by individuals certified by the appropriate State or Tribal authority to conduct inspections.

(ii) Inspections are conducted in a way that identifies the presence of lead-based paint on painted surfaces within the interior or on the exterior of a residential dwelling or child-occupied facility.

(iii) Inspections are conducted in a way that uses documented methodologies that incorporate adequate quality control procedures.

(iv) A report is developed that clearly documents the results of the inspection.

(v) Records are retained by the certified inspector or the firm.

(2) The work practice standards for risk assessment must require that:

(i) Risk assessments are conducted only by individuals certified by the appropriate State or Tribal authority to conduct risk assessments.

(ii) Risk assessments are conducted in a way that identifies and reports the presence of lead-based paint hazards.

(iii) Risk assessments consist of, at least:

(A) An assessment, including a visual inspection, of the physical characteristics of the residential dwelling or child-occupied facility;

(B) Environmental sampling for lead in paint, dust, and soil;

(C) Environmental sampling requirements for lead in paint, dust, and soil that allow for comparison to the standards for lead-based paint hazards established or revised by the State or Indian Tribe pursuant to paragraph (e) of this section; and

(D) A determination of the presence of lead-based paint hazards made by comparing the results of visual inspection and environmental sampling to the standards for lead-based paint hazards established or revised by the State or Indian Tribe pursuant to paragraph (e) of this section.

(iv) The program elements required in paragraph (d)(2)(iii)(C) and (d)(2)(iii)(D) of this section shall be adopted in accordance with the schedule for the demonstration required in paragraph (e) of this section.

(v) The risk assessor develops a report that clearly presents the results of the assessment and recommendations for the control or elimination of all identified hazards.

(vi) The certified risk assessor or the firm retains the appropriate records.

(3) The work practice standards for abatement must require that:

(i) Abatements are conducted only by individuals certified by the appropriate State or Tribal authority to conduct or supervise abatements.

(ii) Abatements permanently eliminate lead-based paint hazards and are conducted in a way that does not increase the hazards of lead-based paint to the occupants of the dwelling or child-occupied facility.

(iii) Abatements include post-abatement lead in dust clearance sampling and conformance with clearance levels established or adopted by the State or Indian Tribe.

(iv) The abatement contractor develops a report that describes areas of the residential dwelling or child-occupied facility abated and the techniques employed.

(v) The certified abatement contractor or the firm retains appropriate records.

(e) The State or Indian Tribe must demonstrate that it has standards for identifying lead-based paint hazards and clearance standards for dust, that are at least as protective as the standards in [§ 745.227](#) as amended on February 5, 2001. A State or Indian Tribe with such a [section 402](#) program approved before February 5, 2003 shall make this demonstration no later than the first report submitted pursuant to [§ 745.324\(h\)](#) on or after February 5, 2003. A State or Indian Tribe with such a program submitted but not approved before February 5, 2003 may make this demonstration by amending its application or in its first report submitted pursuant to [§ 745.324\(h\)](#). A State or Indian Tribe submitting its program on or after February 5, 2003 shall make this demonstration in its application.

**[§ 745.326 Renovation: State and Tribal program requirements.](#)**

(a) Program elements. To receive authorization from EPA, a State or Tribal program must contain the following program elements:

(1) For pre-renovation education programs, procedures and requirements for the distribution of lead hazard information to owners and occupants of target housing and child-occupied facilities before renovations for compensation.

(2) For renovation training, certification, accreditation, and work practice standards programs:

(i) Procedures and requirements for the accreditation of renovation and dust sampling technician training programs.

(ii) Procedures and requirements for the certification of renovators and dust sampling technicians.

(iii) Procedures and requirements for the certification of individuals and/or firms.

(iv) Requirements that all renovations be conducted by appropriately certified individuals and/or firms.

(v) Work practice standards for the conduct of renovations.

(3) For all renovation programs, development of the appropriate infrastructure or government capacity to effectively carry out a State or Tribal program.

(b) Pre-renovation education. To be considered at least as protective as the Federal program, the State or Tribal program must:

(1) Establish clear standards for identifying renovation activities that trigger the information distribution requirements.

(2) Establish procedures for distributing the lead hazard information to owners and occupants of housing and child-occupied facilities prior to renovation activities.

(3) Require that the information to be distributed include either the pamphlet titled Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools, developed by EPA under section 406(a) of TSCA, or an alternate pamphlet or package of lead hazard information that has been submitted by the State or Tribe, reviewed by EPA, and approved by EPA for that State or Tribe. Such information must contain renovation-specific information similar to that in Renovate Right: Important Lead Hazard Information for Families, Child Care Providers and Schools, must meet the content requirements prescribed by section 406(a) of TSCA, and must be in a format that is readable to the diverse audience of housing and child-occupied facility owners and occupants in that State or Tribe.

(i) A State or Tribe with a pre-renovation education program approved before June 23, 2008, must demonstrate that it meets the requirements of this section no later than the first report that it submits pursuant to [§ 745.324\(h\)](#) on or after April 22, 2009.

(ii) A State or Tribe with an application for approval of a pre-renovation education program submitted but not approved before June 23, 2008, must demonstrate that it meets the requirements of this section either by amending its application or in the first report that it submits pursuant to [§ 745.324\(h\)](#) of this part on or after April 22, 2009.

(iii) A State or Indian Tribe submitting its application for approval of a pre-renovation education program on or after June 23, 2008, must demonstrate in its application that it meets the requirements of this section.

(c) Accreditation of training programs. To be considered at least as protective as the Federal program, the State or Tribal program must meet the requirements of either paragraph (c)(1) or (c)(2) of this section:

(1) The State or Tribal program must establish accreditation procedures and requirements, including:

(i) Procedures and requirements for the accreditation of training programs, including, but not limited to:

(A) Training curriculum requirements.

(B) Training hour requirements.

(C) Hands-on training requirements.

(D) Trainee competency and proficiency requirements.

(E) Requirements for training program quality control.

(ii) Procedures and requirements for the re-accreditation of training programs.

(iii) Procedures for the oversight of training programs.

(iv) Procedures and standards for the suspension, revocation, or modification of training program accreditations;  
or

(2) The State or Tribal program must establish procedures and requirements for the acceptance of renovation

training offered by training providers accredited by EPA or a State or Tribal program authorized by EPA under this subpart.

(d) Certification of renovators. To be considered at least as protective as the Federal program, the State or Tribal program must:

- (1) Establish procedures and requirements for individual certification that ensure that certified renovators are trained by an accredited training program.
- (2) Establish procedures and requirements for re-certification.
- (3) Establish procedures for the suspension, revocation, or modification of certifications.

(e) Work practice standards for renovations. To be considered at least as protective as the Federal program, the State or Tribal program must establish standards that ensure that renovations are conducted reliably, effectively, and safely. At a minimum, the State or Tribal program must contain the following requirements:

- (1) Renovations must be conducted only by certified contractors.
- (2) Renovations are conducted using lead-safe work practices that are at least as protective to occupants as the requirements in [§ 745.85](#).
- (3) Certified contractors must retain appropriate records.

#### **[§ 745.327 State or Indian Tribal lead-based paint compliance and enforcement programs.](#)**

(a) Approval of compliance and enforcement programs. A State or Indian Tribe seeking authorization of a lead-based paint program can apply for and receive either interim or final approval of the compliance and enforcement program portion of its lead-based paint program. Indian Tribes are not required to exercise criminal enforcement jurisdiction as a condition for program authorization.

(1) Interim approval. Interim approval of the compliance and enforcement program portion of the State or Tribal lead-based paint program may be granted by EPA only once, and subject to a specific expiration date.

(i) To be considered adequate for purposes of obtaining interim approval for the compliance and enforcement program portion of a State or Tribal lead-based paint program, a State or Indian Tribe must, in its application described at [§ 745.324\(a\)](#):

(A) Demonstrate it has the legal authority and ability to immediately implement the elements in paragraph (b) of this section. This demonstration shall include a statement that the State or Indian Tribe, during the interim approval period, shall carry out a level of compliance monitoring and enforcement necessary to ensure that the State or Indian Tribe addresses any significant risks posed by noncompliance with lead-based paint activity requirements.

(B) Present a plan with time frames identified for implementing in the field each element in paragraph (c) of this section. All elements of paragraph (c) of this section must be fully implemented no later than 3 years from the date of EPA's interim approval of the compliance and enforcement program portion of a State or Tribal lead-based paint program. A statement of resources must be included in the State or Tribal plan which identifies what resources the State or Indian Tribe intends to devote to the administration of its lead-based paint compliance and enforcement program.

(C) Agree to submit to EPA the Summary on Progress and Performance of lead-based paint compliance and enforcement activities as described at paragraph (d) of this section.



(ii) Any interim approval granted by EPA for the compliance and enforcement program portion of a State or Tribal lead-based paint program will expire no later than 3 years from the date of EPA's interim approval. One hundred and eighty days prior to this expiration date, a State or Indian Tribe shall apply to EPA for final approval of the compliance and enforcement program portion of a State or Tribal lead-based paint program. Final approval shall be given to any State or Indian Tribe which has in place all of the elements of paragraphs (b), (c), and (d) of this section. If a State or Indian Tribe does not receive final approval for the compliance and enforcement program portion of a State or Tribal lead-based paint program by the date 3 years after the date of EPA's interim approval, the Administrator shall, by such date, initiate the process to withdraw the State or Indian Tribe's authorization pursuant to [§ 745.324\(i\)](#).

(2) Final approval. Final approval of the compliance and enforcement program portion of a State or Tribal lead-based paint program can be granted by EPA either through the application process described at [§ 745.324\(a\)](#), or, for States or Indian Tribes which previously received interim approval as described in paragraph (a)(1) of this section, through a separate application addressing only the compliance and enforcement program portion of a State or Tribal lead-based paint program.

(i) For the compliance and enforcement program to be considered adequate for final approval through the application described at [§ 745.324\(a\)](#), a State or Indian Tribe must, in its application:

(A) Demonstrate it has the legal authority and ability to immediately implement the elements in paragraphs (b) and (c) of this section.

(B) Submit a statement of resources which identifies what resources the State or Indian Tribe intends to devote to the administration of its lead-based paint compliance and enforcement program.

(C) Agree to submit to EPA the Summary on Progress and Performance of lead-based paint compliance and enforcement activities as described at paragraph (d) of this section.

(ii) For States or Indian Tribes which previously received interim approval as described in paragraph (a)(1) of this section, in order for the State or Tribal compliance and enforcement program to be considered adequate for final approval through a separate application addressing only the compliance and enforcement program portion of a State or Tribal lead-based paint program, a State or Indian Tribe must, in its application:

(A) Demonstrate that it has the legal authority and ability to immediately implement the elements in paragraphs (b) and (c) of this section.

(B) Submit a statement which identifies the resources the State or Indian Tribe intends to devote to the administration of its lead-based paint compliance and enforcement program.

(C) Agree to submit to EPA the Summary on Progress and Performance of lead-based paint compliance and enforcement activities as described at paragraph (d) of this section.

(D) To the extent not previously submitted through the application described at [§ 745.324\(a\)](#), submit copies of all applicable State or Tribal statutes, regulations, standards, and other material that provide the State or Indian Tribe with authority to administer and enforce the lead-based paint compliance and enforcement program, and copies of the policies, certifications, plans, reports, and any other documents that demonstrate that the program meets the requirements established in paragraphs (b) and (c) of this section.

(b) Standards, regulations, and authority. The standards, regulations, and authority described in paragraphs (b)(1) through (b)(4) of this section are part of the required elements for the compliance and enforcement portion of a State or Tribal lead-based paint program.

(1) Lead-based paint activities and requirements. State or Tribal lead-based paint compliance and enforcement programs will be considered adequate if the State or Indian Tribe demonstrates, in its application at [§ 745.324\(a\)](#), that it has established a lead-based paint program containing the following requirements:

(i) Accreditation of training programs as described at [§ 745.325\(b\)](#).

(ii) Certification of individuals engaged in lead-based paint activities as described at [§ 745.325\(c\)](#).

(iii) Standards for the conduct of lead-based paint activities as described at [§ 745.325\(d\)](#); and, as appropriate,

(iv) Requirements that regulate the conduct of renovation activities as described at [§ 745.326](#).

(2) Authority to enter. State or Tribal officials must be able to enter, through consent, warrant, or other authority, premises or facilities where lead-based paint activities violations may occur for purposes of conducting inspections.

(i) State or Tribal officials must be able to enter premises or facilities where those engaged in training for lead-based paint activities conduct business.

(ii) For the purposes of enforcing a renovation program, State or Tribal officials must be able to enter a firm's place of business or work site.

(iii) State or Tribal officials must have authority to take samples and review records as part of the lead-based paint activities inspection process.

(3) Flexible remedies. A State or Tribal lead-based paint compliance and enforcement program must provide for a diverse and flexible array of enforcement remedies. At a minimum, the remedies that must be reflected in an enforcement response policy must include the following:

(i) Warning letters, Notices of Noncompliance, Notices of Violation, or the equivalent;

(ii) Administrative or civil actions, including penalty authority (e.g., accreditation or certification suspension, revocation, or modification); and

(iii) Authority to apply criminal sanctions or other criminal authority using existing State or Tribal laws, as applicable.

(4) Adequate resources. An application must include a statement that identifies the resources that will be devoted by the State or Indian Tribe to the administration of the State or Tribal lead-based paint compliance and enforcement program. This statement must address fiscal and personnel resources that will be devoted to the program.

(c) Performance elements. The performance elements described in paragraphs (c)(1) through (c)(7) of this section are part of the required elements for the compliance and enforcement program portion of a State or Tribal lead-based paint program.

(1) Training. A State or Tribal lead-based paint compliance and enforcement program must implement a process for training enforcement and inspection personnel and ensure that enforcement personnel and inspectors are well trained. Enforcement personnel must understand case development procedures and the maintenance of proper case files. Inspectors must successfully demonstrate knowledge of the requirements of the particular discipline (e.g., abatement supervisor, and/or abatement worker, and/or lead-based paint inspector, and/or risk assessor, and/or project designer) for which they have compliance monitoring and enforcement responsibilities. Inspectors must also be trained in violation discovery, methods of obtaining consent, evidence gathering,

preservation of evidence and chain-of-custody, and sampling procedures. A State or Tribal lead-based paint compliance and enforcement program must also implement a process for the continuing education of enforcement and inspection personnel.

(2) Compliance assistance. A State or Tribal lead-based paint compliance and enforcement program must provide compliance assistance to the public and the regulated community to facilitate awareness and understanding of and compliance with State or Tribal requirements governing the conduct of lead-based paint activities. The type and nature of this assistance can be defined by the State or Indian Tribe to achieve this goal.

(3) Sampling techniques. A State or Tribal lead-based paint compliance and enforcement program must have the technological capability to ensure compliance with the lead-based paint program requirements. A State or Tribal application for approval of a lead-based paint program must show that the State or Indian Tribe is technologically capable of conducting a lead-based paint compliance and enforcement program. The State or Tribal program must have access to the facilities and equipment necessary to perform sampling and laboratory analysis as needed. This laboratory facility must be a recognized laboratory as defined at [§ 745.223](#), or the State or Tribal program must implement a quality assurance program that ensures appropriate quality of laboratory personnel and protects the integrity of analytical data.

(4) Tracking tips and complaints. A State or Tribal lead-based paint compliance and enforcement program must demonstrate the ability to process and react to tips and complaints or other information indicating a violation.

(5) Targeting inspections. A State or Tribal lead-based paint compliance and enforcement program must demonstrate the ability to target inspections to ensure compliance with the lead-based paint program requirements. Such targeting must include a method for obtaining and using notifications of commencement of abatement activities.

(6) Follow up to inspection reports. A State or Tribal lead-based paint compliance and enforcement program must demonstrate the ability to reasonably, and in a timely manner, process and follow-up on inspection reports and other information generated through enforcement-related activities associated with a lead-based paint program. The State or Tribal program must be in a position to ensure correction of violations and, as appropriate, effectively develop and issue enforcement remedies/responses to follow up on the identification of violations.

(7) Compliance monitoring and enforcement. A State or Tribal lead-based paint compliance and enforcement program must demonstrate, in its application for approval, that it is in a position to implement a compliance monitoring and enforcement program. Such a compliance monitoring and enforcement program must ensure correction of violations, and encompass either planned and/or responsive lead-based paint compliance inspections and development/issuance of State or Tribal enforcement responses which are appropriate to the violations.

(d) Summary on Progress and Performance. The Summary on Progress and Performance described below is part of the required elements for the compliance and enforcement program portion of a State or Tribal lead-based paint program. A State or Tribal lead-based paint compliance and enforcement program must submit to the appropriate EPA Regional Administrator a report which summarizes the results of implementing the State or Tribal lead-based paint compliance and enforcement program, including a summary of the scope of the regulated community within the State or Indian Tribe (which would include the number of individuals and firms certified in lead-based paint activities and the number of training programs accredited), the inspections conducted, enforcement actions taken, compliance assistance provided, and the level of resources committed by the State or Indian Tribe to these activities. The report shall be submitted according to the requirements at [§ 745.324\(h\)](#).

(e) Memorandum of Agreement. An Indian Tribe that obtains program approval must establish a Memorandum of Agreement with the Regional Administrator. The Memorandum of Agreement shall be executed by the Indian Tribe's counterpart to the State Director (e.g., the Director of Tribal Environmental Office, Program or Agency). The Memorandum of Agreement must include provisions for the timely and appropriate referral to the Regional

Administrator for those criminal enforcement matters where that Indian Tribe does not have the authority (e.g., those addressing criminal violations by non-Indians or violations meriting penalties over \$5,000). The Agreement must also identify any enforcement agreements that may exist between the Indian Tribe and any State.

(f) Electronic reporting under State or Indian Tribe programs. States and tribes that choose to receive electronic documents under the authorized state or Indian tribe lead-based paint program, must ensure that the requirements of [40 CFR part 3](#)--(Electronic reporting) are satisfied in their lead-based paint program.

[§ 745.330 \[Reserved\]](#)

[§ 745.339 Effective date.](#)

States and Indian Tribes may seek authorization to administer and enforce subpart L of this part pursuant to this subpart at any time. States and Indian Tribes may seek authorization to administer and enforce the pre-renovation education provisions of subpart E of this part pursuant to this subpart at any time. States and Indian Tribes may seek authorization to administer and enforce all of subpart E of this part pursuant to this subpart effective June 23, 2008.

Current through June 26, 2008; 73 FR 36284  
END OF DOCUMENT



HUD Lead Safe Housing Rule, 24 CFR 35, subparts B through R, reflecting changes made by the technical amendment issued June 21, 2004 (69 Federal Register 34262-34276).

## TITLE 24--HOUSING AND URBAN DEVELOPMENT

### PART 35\_LEAD-BASED PAINT POISONING PREVENTION IN CERTAIN RESIDENTIAL STRUCTURES

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Authority: 42 U.S.C. 3535(d), 4821, and 4851.

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Subpart B\_General Lead-Based Paint Requirements and Definitions for All Programs.

Source: 64 FR 50202, Sept. 15, 1999, unless otherwise noted.

Sec. 35.100 Purpose and applicability.

(a) Purpose. The requirements of subparts B through R of this part are promulgated to implement the Lead-Based Paint Poisoning Prevention Act, as amended (42 U.S.C. 4821 et seq.), and the Residential Lead-Based Paint Hazard Reduction Act of 1992 (42 U.S.C. 4851 et seq.).

(b) Applicability--

(1) This subpart. This subpart applies to all target housing that is federally owned and target housing receiving Federal assistance to which subparts C, D, F through M, and R of this part apply, except where indicated.

(2) Other subparts--

(i) General. Subparts C, D, and F through M of this part each set forth requirements for a specific type of Federal housing activity or assistance, such as multifamily mortgage insurance, project-based rental assistance, rehabilitation, or tenant-based rental assistance. Subpart R of this part provides standards and methods for activities required in subparts B, C, D, and F through M of this part.

(ii) Application to programs. Most HUD housing programs are covered by only one subpart of this part, but some programs can be used for more than one type of assistance and therefore are covered by more than one subpart of this part. A current list of programs covered by each subpart of this part is available on the internet at [www.hud.gov](http://www.hud.gov), or by

mail from the National Lead Information Center at 1-800-424-LEAD. Examples of flexible programs that can provide more than one type of assistance are the HOME Investment Partnerships program, the Community Development Block Grant program, and the Indian Housing Block Grant Program. Grantees, participating jurisdictions, Indian tribes and other entities administering such flexible programs must decide which subpart applies to the type of assistance being provided to a particular dwelling unit or residential property.

(iii) Application to dwelling units. In some cases, more than one type of assistance may be provided to the same dwelling unit. In such cases, the subpart or section with the most protective initial hazard reduction requirements applies. Paragraph (c) of this section provides a table that lists the subparts and sections of this part in order from the most protective to the least protective. (This list is based only on the requirements for initial hazard reduction. The summary of requirements on this list is not a complete list of requirements. It is necessary to refer to the applicable subparts and sections to determine all applicable requirements.)

(iv) Example. A multifamily building has 100 dwelling units and was built in 1965. The property is financed with HUD multifamily mortgage insurance. This building is covered by subpart G of this part (see Sec. 35.625--Multifamily mortgage insurance for properties constructed after 1959), which is at protectiveness level 5 in the table set forth in paragraph (c) of this section. In the same building, however, 50 of the 100 dwelling units are receiving project-based assistance, and the average annual assistance per assisted unit is \$5,500. Those 50 units, and common areas servicing those units, are covered by the requirements of subpart H of this part (see Sec. 35.715--Project-based assistance for multifamily properties receiving more than \$5,000 per unit), which are at protectiveness level 3. Therefore, because level 3 is a higher level of protectiveness than level 5, the units receiving project-based assistance, and common areas servicing those units, must comply at level 3, while the rest of the building can be operated at level 5. The owner may choose to operate the entire building at level 3 for simplicity.

(c) Table One. The following table lists the subparts and sections of this part applying to HUD programs in order from most protective to least protective hazard reduction requirements. The summary of hazard reduction requirements in this table is not complete. Readers must refer to relevant subpart for complete requirements.

Level of protection	Subpart, section, and type of assistance	Hazard reduction requirements
1.....	Subpart L, Public housing. Subpart G, Sec. 35.630, Multifamily mortgage insurance for conversions and major rehabilitations.	Full abatement of lead-based paint.
2.....	Subpart J, Sec. 35.930(d), Properties receiving	Abatement of lead-based

	more than \$25,000 per unit in rehabilitation assistance.	paint hazards.
3.....	Subpart G, Sec. 35.620, Multifamily mortgage insurance for properties constructed before 1960, other than conversions and major rehabilitations. Subpart H, Sec. 35.715, Project-based assistance for multifamily properties receiving more than \$5,000 per unit. Subpart I, HUD-owned multifamily property. Subpart J, Sec. 35.930(c), Properties receiving more than \$5,000 and up to \$25,000 per unit in rehabilitation assistance.	Interim controls.
4.....	Subpart F, HUD-owned single family properties. Subpart H, Sec. 35.720, Project-based rental assistance for multifamily properties receiving up to \$5,000 per unit and single family properties. Subpart K, Acquisition, leasing, support services, or operation. Subpart M, Tenant-based rental assistance.	Paint stabilization.
5.....	Subpart G, Sec. 35.625, Multifamily mortgage insurance for properties constructed after 1959.	Ongoing lead-based paint maintenance.
6.....	Subpart J, Sec. 35.930(b), Properties receiving up to and including \$5,000 in rehabilitation assistance.	Safe work practices during rehabilitation.

Sec. 35.105 Effective dates.

The effective date for subparts B through R of this part is September 15, 2000, except that the effective date for prohibited methods of paint removal, described in Sec. 35.140, is November 15, 1999. Subparts F through M of this part provide further information on the application of the effective date to specific programs. Before September 15, 2000, a designated party has the option of following the procedures in subparts B through R of this part, or complying with current HUD lead-based paint regulations.

Sec. 35.106 Information collection requirements.

The information collection requirements contained in this part have been approved by the Office of Management and Budget (OMB) in accordance with the requirements of the Paperwork Reduction Act of 1995 (44 U.S.C. 2501-3520), and have been assigned OMB control number 2539-0009. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the collection displays a valid control number.

Sec. 35.110 Definitions.

Abatement means any set of measures designed to permanently eliminate lead-based paint or lead-based paint hazards (see definition of "permanent"). Abatement includes:

- (1) The removal of lead-based paint and dust-lead hazards, the permanent enclosure or encapsulation of lead-based paint, the replacement of components or fixtures painted with lead-based paint, and the removal or permanent covering of soil-lead hazards; and

(2) All preparation, cleanup, disposal, and post abatement clearance testing activities associated with such measures.

Act means the Lead-Based Paint Poisoning Prevention Act, as amended, 42 U.S.C. 4822 et seq.

Bare soil means soil or sand not covered by grass, sod, other live ground covers, wood chips, gravel, artificial turf, or similar covering.

Certified means licensed or certified to perform such activities as risk assessment, lead-based paint inspection, or abatement supervision, either by a State or Indian tribe with a lead-based paint certification program authorized by the Environmental Protection Agency (EPA), or by the EPA, in accordance with 40 CFR part 745, subparts L or Q.

Chewable surface means an interior or exterior surface painted with lead-based paint that a young child can mouth or chew. A chewable surface is the same as an "accessible surface" as defined in 42 U.S.C. 4851b(2)). Hard metal substrates and other materials that cannot be dented by the bite of a young child are not considered chewable.

Clearance examination means an activity conducted following lead-based paint hazard reduction activities to determine that the hazard reduction activities are complete and that no soil-lead hazards or settled dust-lead hazards, as defined in this part, exist in the dwelling unit or worksite. The clearance process includes a visual assessment and collection and analysis of environmental samples. Dust-lead standards for clearance are found at Sec. 35.1320.

CILP recipient means an owner of a multifamily property which is undergoing rehabilitation funded by the Flexible Subsidy-Capital Improvement Loan Program (CILP).

Common area means a portion of a residential property that is available for use by occupants of more than one dwelling unit. Such an area may include, but is not limited to, hallways, stairways, laundry and recreational rooms, playgrounds, community centers, on-site day care facilities, garages and boundary fences.

Component means an architectural element of a dwelling unit or common area identified by type and location, such as a bedroom wall, an exterior window sill, a baseboard in a living room, a kitchen floor, an interior window sill in a bathroom, a porch floor, stair treads in a common stairwell, or an exterior wall.

Composite sample means a collection of more than one sample of the same medium (e.g., dust, soil or paint) from the same type of surface (e.g., floor, interior window sill, or window trough), such that multiple samples can be analyzed as a single sample.

Containment means the physical measures taken to ensure that dust and debris created or released during lead-based paint hazard reduction are not spread, blown or tracked from inside to outside of the worksite.

Designated party means a Federal agency, grantee, subrecipient, participating jurisdiction, housing agency, Indian Tribe, tribally designated housing entity (TDHE), sponsor, or property owner responsible for complying with applicable requirements.

Deteriorated paint means any interior or exterior paint or other coating that is peeling, chipping, chalking or cracking, or any paint or coating located on an interior or exterior surface or fixture that is otherwise damaged or separated from the substrate.

Dry sanding means sanding without moisture and includes both hand and machine sanding.

Dust-lead hazard means surface dust that contains a dust-lead loading (area concentration of lead) equal to or exceeding the levels promulgated by the EPA at 40 CFR 745.65 or, if such levels are not in effect, the standards for dust-lead hazards in Sec. 35.1320.

Dwelling unit means a:

(1) Single-family dwelling, including attached structures such as porches and stoops; or

(2) Housing unit in a structure that contains more than 1 separate housing unit, and in which each such unit is used or occupied, or intended to be used or occupied, in whole or in part, as the home or separate living quarters of 1 or more persons.

Encapsulation means the application of a covering or coating that acts as a barrier between the lead-based paint and the environment and that relies for its durability on adhesion between the encapsulant and the painted surface, and on the integrity of the existing bonds between paint layers and between the paint and the substrate. Encapsulation may be used as a method of abatement if it is designed and performed so as to be permanent (see definition of "permanent").

Enclosure means the use of rigid, durable construction materials that are mechanically fastened to the substrate in order to act as a barrier between lead-based paint and the environment. Enclosure may be used as a

method of abatement if it is designed to be permanent (see definition of "permanent").

Environmental intervention blood lead level means a confirmed concentration of lead in whole blood equal to or greater than 20 µg/dL (micrograms of lead per deciliter) for a single test or 15-19 µg/dL in two tests taken at least 3 months apart.

Evaluation means a risk assessment, a lead hazard screen, a lead-based paint inspection, paint testing, or a combination of these to determine the presence of lead-based paint hazards or lead-based paint.

Expected to reside means there is actual knowledge that a child will reside in a dwelling unit reserved for the elderly or designated exclusively for persons with disabilities. If a resident woman is known to be pregnant, there is actual knowledge that a child will reside in the dwelling unit.

Federal agency means the United States or any executive department, independent establishment, administrative agency and instrumentality of the United States, including a corporation in which all or a substantial amount of the stock is beneficially owned by the United States or by any of these entities. The term "Federal agency" includes, but is not limited to, Rural Housing Service (formerly Rural Housing and Community Development Service that was formerly Farmer's Home Administration), Resolution Trust Corporation, General Services Administration, Department of Defense, Department of Veterans Affairs, Department of the Interior, and Department of Transportation.

Federally owned property means residential property owned or managed by a Federal agency, or for which a Federal agency is a trustee or conservator.

Firm commitment means a valid commitment issued by HUD or the Federal Housing Commissioner setting forth the terms and conditions upon which a mortgage will be insured or guaranteed.

Friction surface means an interior or exterior surface that is subject to abrasion or friction, including, but not limited to, certain window, floor, and stair surfaces.

g means gram, mg means milligram (thousandth of a gram), and µg means microgram (millionth of a gram).

Grantee means any state or local government, Indian Tribe, IHBG recipient, insular area or nonprofit organization that has been designated

by HUD to administer Federal housing assistance under a program covered by subparts J and K of this part, except the HOME program.

Hard costs of rehabilitation means:

(1) Costs to correct substandard conditions or to meet applicable local rehabilitation standards;

(2) Costs to make essential improvements, including energy-related repairs, and those necessary to permit use by persons with disabilities; and costs to repair or replace major housing systems in danger of failure; and

(3) Costs of non-essential improvements, including additions and alterations to an existing structure; but

(4) Hard costs do not include administrative costs (e.g., overhead for administering a rehabilitation program, processing fees, etc.).

Hazard reduction means measures designed to reduce or eliminate human exposure to lead-based paint hazards through methods including interim controls or abatement or a combination of the two.

HEPA vacuum means a vacuum cleaner device with an included high-efficiency particulate air (HEPA) filter through which the contaminated air flows, operated in accordance with the instructions of its manufacturer. A HEPA filter is one that captures at least 99.97 percent of airborne particles of at least 0.3 micrometers in diameter.

Housing for the elderly means retirement communities or similar types of housing reserved for households composed of one or more persons 62 years of age or more, or other age if recognized as elderly by a specific Federal housing assistance program.

Housing receiving Federal assistance means housing which is covered by an application for HUD mortgage insurance, receives housing assistance payments under a program administered by HUD, or otherwise receives more than \$5,000 in project-based assistance under a Federal housing program administered by an agency other than HUD.

HUD means the United States Department of Housing and Urban Development.

HUD-owned property means residential property owned or managed by HUD, or for which HUD is a trustee or conservator.

Impact surface means an interior or exterior surface that is subject to damage by repeated sudden force, such as certain parts of door frames.

Indian Housing Block Grant (IHBG) recipient means a tribe or a tribally designated housing entity (TDHE) receiving IHBG funds.

Indian tribe means a tribe as defined in the Native American Housing Assistance and Self-Determination Act of 1996 (25 U.S.C. 4101 et seq.)

Inspection (See Lead-based paint inspection).

Insular areas means Guam, the Northern Mariana Islands, the United States Virgin Islands and American Samoa.

Interim controls means a set of measures designed to reduce temporarily human exposure or likely exposure to lead-based paint hazards. Interim controls include, but are not limited to, repairs, painting, temporary containment, specialized cleaning, clearance, ongoing lead-based paint maintenance activities, and the establishment and operation of management and resident education programs.

Interior window sill means the portion of the horizontal window ledge that protrudes into the interior of the room, adjacent to the window sash when the window is closed. The interior window sill is sometimes referred to as the window stool.

Lead-based paint means paint or other surface coatings that contain lead equal to or exceeding 1.0 milligram per square centimeter or 0.5 percent by weight or 5,000 parts per million (ppm) by weight.

Lead-based paint hazard means any condition that causes exposure to lead from dust-lead hazards, soil-lead hazards, or lead-based paint that is deteriorated or present in chewable surfaces, friction surfaces, or impact surfaces, and that would result in adverse human health effects.

Lead-based paint inspection means a surface-by-surface investigation to determine the presence of lead-based paint and the provision of a report explaining the results of the investigation.

Lead hazard screen means a limited risk assessment activity that involves paint testing and dust sampling and analysis as described in 40 CFR 745.227(c) and soil sampling and analysis as described in 40 CFR 745.227(d).

Mortgagee means a lender of a mortgage loan.

Mortgagor means a borrower of a mortgage loan.



Multifamily property means a residential property containing five or more dwelling units.

Occupant means a person who inhabits a dwelling unit.

Owner means a person, firm, corporation, nonprofit organization, partnership, government, guardian, conservator, receiver, trustee, executor, or other judicial officer, or other entity which, alone or with others, owns, holds, or controls the freehold or leasehold title or part of the title to property, with or without actually possessing it. The definition includes a vendee who possesses the title, but does not include a mortgagee or an owner of a reversionary interest under a ground rent lease.

Paint stabilization means repairing any physical defect in the substrate of a painted surface that is causing paint deterioration, removing loose paint and other material from the surface to be treated, and applying a new protective coating or paint.

Paint testing means the process of determining, by a certified lead-based paint inspector or risk assessor, the presence or the absence of lead-based paint on deteriorated paint surfaces or painted surfaces to be disturbed or replaced.

Paint removal means a method of abatement that permanently eliminates lead-based paint from surfaces.

Painted surface to be disturbed means a paint surface that is to be scraped, sanded, cut, penetrated or otherwise affected by rehabilitation work in a manner that could potentially create a lead-based paint hazard by generating dust, fumes, or paint chips.

Participating jurisdiction means any State or local government that has been designated by HUD to administer a HOME program grant.

Permanent means an expected design life of at least 20 years.

Play area means an area of frequent soil contact by children of less than 6 years of age, as indicated by the presence of play equipment (e.g. sandboxes, swing sets, sliding boards, etc.) or toys or other children's possessions, observations of play patterns, or information provided by parents, residents or property owners.

Project-based rental assistance means Federal rental assistance that is tied to a residential property with a specific location and remains with that particular location throughout the term of the assistance.

Public health department means a State, tribal, county or municipal public health department or the Indian Health Service.

Public housing development means a residential property assisted under the United States Housing Act of 1937 (42 U.S.C. 1437 et seq.), but not including housing assisted under section 8 of the 1937 Act.

Reevaluation means a visual assessment of painted surfaces and limited dust and soil sampling conducted periodically following lead-based paint hazard reduction where lead-based paint is still present.

Rehabilitation means the improvement of an existing structure through alterations, incidental additions or enhancements. Rehabilitation includes repairs necessary to correct the results of deferred maintenance, the replacement of principal fixtures and components, improvements to increase the efficient use of energy, and installation of security devices.

Replacement means a strategy of abatement that entails the removal of building components that have surfaces coated with lead-based paint and the installation of new components free of lead-based paint.

Residential property means a dwelling unit, common areas, building exterior surfaces, and any surrounding land, including outbuildings, fences and play equipment affixed to the land, belonging to an owner and available for use by residents, but not including land used for agricultural, commercial, industrial or other non-residential purposes, and not including paint on the pavement of parking lots, garages, or roadways.

Risk assessment means:

(1) An on-site investigation to determine the existence, nature, severity, and location of lead-based paint hazards; and

(2) The provision of a report by the individual or firm conducting the risk assessment explaining the results of the investigation and options for reducing lead-based paint hazards.

Single family property means a residential property containing one through four dwelling units.

Single room occupancy (SRO) housing means housing consisting of zero-bedroom dwelling units that may contain food preparation or sanitary facilities or both (see Zero-bedroom dwelling).

Soil-lead hazard means bare soil on residential property that contains lead equal to or exceeding levels promulgated by the EPA at 40 CFR 745.65 or, if such levels are not in effect, the standards for soil-lead hazards in Sec. 35.1320.

Sponsor means mortgagor (borrower).

Subrecipient means any nonprofit organization selected by the grantee or participating jurisdiction to administer all or a portion of the Federal rehabilitation assistance or other non-rehabilitation assistance, or any such organization selected by a subrecipient of the grantee or participating jurisdiction. An owner or developer receiving Federal rehabilitation assistance or other assistance for a residential property is not considered a subrecipient for the purposes of carrying out that project.

Standard treatments means a series of hazard reduction measures designed to reduce all lead-based paint hazards in a dwelling unit without the benefit of a risk assessment or other evaluation.

Substrate means the material directly beneath the painted surface out of which the components are constructed, including wood, drywall, plaster, concrete, brick or metal.

Target housing means any housing constructed prior to 1978, except housing for the elderly or persons with disabilities (unless a child of less than 6 years of age resides or is expected to reside in such housing for the elderly or persons with disabilities) or any zero- bedroom dwelling. In the case of jurisdictions which banned the sale or use of lead-based paint prior to 1978, HUD may designate an earlier date.

Tenant means the individual named as the lessee in a lease, rental agreement or occupancy agreement for a dwelling unit.

A visual assessment alone is not considered an evaluation for the purposes of this part. Visual assessment means looking for, as applicable:

- (1) Deteriorated paint;
- (2) Visible surface dust, debris and residue as part of a risk assessment or clearance examination; or
- (3) The completion or failure of a hazard reduction measure.

Wet sanding or wet scraping means a process of removing loose paint in which the painted surface to be sanded or scraped is kept wet to minimize the dispersal of paint chips and airborne dust.

Window trough means the area between the interior window sill (stool) and the storm window frame. If there is no storm window, the window trough is the area that receives both the upper and lower window sashes when they are both lowered.

Worksite means an interior or exterior area where lead-based paint hazard reduction activity takes place. There may be more than one worksite in a dwelling unit or at a residential property.

Zero-bedroom dwelling means any residential dwelling in which the living areas are not separated from the sleeping area. The term includes efficiencies, studio apartments, dormitory or single room occupancy housing, military barracks, and rentals of individual rooms in residential dwellings (see Single room occupancy (SRO)).

#### Sec. 35.115 Exemptions.

(a) Subparts B through R of this part do not apply to the following:

(1) A residential property for which construction was completed on or after January 1, 1978, or, in the case of jurisdictions which banned the sale or residential use of lead-containing paint prior to 1978, an earlier date as HUD may designate (see Sec. 35.160).

(2) A zero-bedroom dwelling unit, including a single room occupancy (SRO) dwelling unit.

(3) Housing for the elderly, or a residential property designated exclusively for persons with disabilities; except this exemption shall not apply if a child less than age 6 resides or is expected to reside in the dwelling unit (see definitions of "housing for the elderly" and "expected to reside" in Sec. 35.110).

(4) Residential property found not to have lead-based paint by a lead-based paint inspection conducted in accordance with Sec. 35.1320(a) (for more information regarding inspection procedures consult the 1997 edition of Chapter 7 of the HUD Guidelines). Results of additional test(s) by a certified lead-based paint inspector may be used to confirm or refute a prior finding.

(5) Residential property in which all lead-based paint has been identified, removed, and clearance has been achieved in accordance with 40 CFR 745.227(b)(e) before September 15, 2000, or in accordance with Secs. 35.1320, 35.1325 and 35.1340 on or after September 15, 2000. This exemption does not apply to residential property where enclosure or encapsulation has been used as a method of abatement.

(6) An unoccupied dwelling unit or residential property that is to be demolished, provided the dwelling unit or property will remain unoccupied until demolition.

(7) A property or part of a property that is not used and will not be used for human residential habitation, except that spaces such as entryways, hallways, corridors, passageways or stairways serving both residential and nonresidential uses in a mixed-use property shall not be exempt.

(8) Any rehabilitation that does not disturb a painted surface.

(9) For emergency actions immediately necessary to safeguard against imminent danger to human life, health or safety, or to protect property from further structural damage (such as when a property has been damaged by a natural disaster, fire, or structural collapse), occupants shall be protected from exposure to lead in dust and debris generated by such emergency actions to the extent practicable, and the requirements of subparts B through R of this part shall not apply. This exemption applies only to repairs necessary to respond to the emergency. The requirements of subparts B through R of this part shall apply to any work undertaken subsequent to, or above and beyond, such emergency actions.

(10) If a Federal law enforcement agency has seized a residential property and owns the property for less than 270 days, Secs. 35.210 and 35.215 shall not apply to the property.

(11) The requirements of subpart K of this part do not apply if the assistance being provided is emergency rental assistance or foreclosure prevention assistance, provided that this exemption shall expire for a dwelling unit no later than 100 days after the initial payment or assistance.

(12) Performance of an evaluation or lead-based paint hazard reduction or lead-based paint abatement on an exterior painted surface as required under this part may be delayed for a reasonable time during a period when weather conditions are unsuitable for conventional construction activities.

(13) Where abatement of lead-based paint hazards or lead-based paint is required by this part and the property is listed or has been determined to be eligible for listing in the National Register of Historic Places or contributing to a National Register Historic District, the designated party may, if requested by the State Historic Preservation Office, conduct interim controls in accordance with Sec. 35.1330 instead of abatement. If interim controls are conducted, ongoing lead-based paint

maintenance and reevaluation shall be conducted as required by the applicable subpart of this part in accordance with Sec. 35.1355.

(b) For the purposes of subpart C of this part, each Federal agency other than HUD will determine whether appropriations are sufficient to implement this rule. If appropriations are not sufficient, subpart C of this part shall not apply to that Federal agency. If appropriations are sufficient, subpart C of this part shall apply.

#### Sec. 35.120 Options.

(a) Standard treatments. Where interim controls are required by this part, the designated party has the option to presume that lead-based paint or lead-based paint hazards or both are present throughout the residential property. In such a case, evaluation is not required. Standard treatments shall then be conducted in accordance with Sec. 35.1335 on all applicable surfaces, including soil. Standard treatments are completed only when clearance is achieved in accordance with Sec. 35.1340.

(b) Abatement. Where abatement is required by this part, the designated party may presume that lead-based paint or lead-based paint hazards or both are present throughout the residential property. In such a case, evaluation is not required. Abatement shall then be conducted on all applicable surfaces, including soil, in accordance with Sec. 35.1325, and completed when clearance is achieved in accordance with Sec. 35.1340. This option is not available in public housing, where inspection is required.

(c) Lead hazard screen. Where a risk assessment is required, the designated party may choose first to conduct a lead hazard screen in accordance with Sec. 35.1320(b). If the results of the lead hazard screen indicate the need for a full risk assessment (e.g., if the environmental measurements exceed levels established for lead hazard screens in Sec. 35.1320(b)(2)), a complete risk assessment shall be conducted. Environmental samples collected for the lead hazard screen may be used in the risk assessment. If the results of the lead hazard screen do not indicate the need for a follow-up risk assessment, a risk assessment is not required.

(d) Paint testing. Where paint stabilization or interim controls of deteriorated paint surfaces are required by this rule, the designated party has the option to conduct paint testing of all surfaces with non-intact paint. If paint testing indicates the absence of lead-based paint on a specific surface, paint stabilization or interim controls are not required on that surface.

#### Sec. 35.125 Notice of evaluation and hazard reduction activities.

The following activities shall be conducted if notice is required by subparts D and F through M of this part.

(a) Notice of evaluation or presumption. When evaluation is undertaken and lead-based paint or lead-based paint hazards are found to be present, or if a presumption is made that lead-based paint or lead-based paint hazards are present in accordance with the options described in Sec. 35.120, the designated party shall provide a notice to occupants within 15 calendar days of the date when the designated party receives the report or makes the presumption. A visual assessment alone is not considered an evaluation for the purposes of this part. If only a visual assessment alone is required by this part, and no evaluation is performed, a notice of evaluation or presumption is not required.

(1) The notice of the evaluation shall include:

(i) A summary of the nature, dates, scope and results of the evaluation;

(ii) A contact name, address and telephone number for more information, and to obtain access to the actual evaluation report; and

(iii) The date of the notice.

(2) The notice of presumption shall include:

(i) The nature and scope of the presumption;

(ii) A contact name, address and telephone number for more information; and

(iii) The date of the notice.

(b) Notice of hazard reduction activity. When hazard reduction activities are undertaken, each designated party shall:

(1) Provide a notice to occupants no more than 15 calendar days after the hazard reduction activities (including paint stabilization) have been completed. Notice of hazard reduction shall include, but not be limited to:

(i) A summary of the nature, dates, scope and results (including clearance), of the hazard reduction activities.

(ii) A contact name, address, and telephone number for more information;

(iii) Available information on the location of any remaining lead-based paint in the rooms, spaces or areas where hazard reduction activities were conducted, on a surface-by-surface basis; and

(iv) The date of the notice.

(2) Update the notice, based on reevaluation of the residential property and as any additional hazard reduction work is conducted.

(3) Provision of a notice of hazard reduction is not required if a clearance examination is not required.

(c) Availability of notices of evaluation, presumption, and hazard reduction activities.

(1) The notices of evaluation, presumption, and hazard reduction shall be of a size and type that is easily read by occupants.

(2) To the extent practicable, each notice shall be made available, upon request, in a format accessible to persons with disabilities (e.g., Braille, large type, computer disk, audio tape).

(3) Each notice shall be provided in the occupants' primary language or in the language of the occupants' contract or lease.

(4) The designated party shall provide each notice to the occupants by:

(i) Posting and maintaining it in centrally located common areas and distributing it to any dwelling unit if necessary because the head of household is a person with a known disability; or

(ii) Distributing it to each occupied dwelling unit affected by the evaluation, presumption, or hazard reduction activity or serviced by common areas in which an evaluation, presumption or hazard reduction has taken place.

Sec. 35.130 Lead hazard information pamphlet.

If provision of a lead hazard information pamphlet is required in subparts D and F through M of this part, the designated party shall provide to each occupied dwelling unit to which subparts D and F through M of this part apply, the lead hazard information pamphlet developed by EPA, HUD and the Consumer Product Safety Commission pursuant to section 406 of the Toxic Substances Control Act (15 U.S.C. 2686), or an EPA-approved alternative; except that the designated party need not provide a lead hazard information pamphlet if the designated party can demonstrate that



the pamphlet has already been provided in accordance with the lead-based paint notification and disclosure requirements at Sec. 35.88(a)(1), or 40 CFR 745.107(a)(1) or in accordance with the requirements for hazard education before renovation at 40 CFR part 745, subpart E.

Sec. 35.135 Use of paint containing lead.

(a) New use prohibition. The use of paint containing more than 0.06 percent dry weight of lead on any interior or exterior surface in federally owned housing or housing receiving Federal assistance is prohibited. As appropriate, each Federal agency shall include the prohibition in contracts, grants, cooperative agreements, insurance agreements, guaranty agreements, trust agreements, or other similar documents.

(b) Pre-1978 prohibition. In the case of a jurisdiction which banned the sale or residential use of lead-containing paint before 1978, HUD may designate an earlier date for certain provisions of subparts D and F through M of this part.

Sec. 35.140 Prohibited methods of paint removal.

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 20 sq. ft. (2.0 sq. m.) on exterior surfaces.

(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.

Sec. 35.145 Compliance with Federal laws and authorities.

All lead-based paint activities, including waste disposal, performed under this part shall be performed in accordance with applicable Federal laws and authorities. For example, such activities are subject to the applicable environmental review requirements of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), the Toxic Substances Control Act, Title IV (15 U.S.C. 2860 et seq.), and other environmental laws and authorities (see, e.g., laws and authorities listed in Sec. 50.4 of this title).

Sec. 35.150 Compliance with other State, tribal, and local laws.

(a) HUD responsibility. If HUD determines that a State, tribal or local law, ordinance, code or regulation provides for evaluation or hazard reduction in a manner that provides a comparable level of protection from the hazards of lead-based paint poisoning to that provided by the requirements of subparts B, C, D, F through M and R of this part and that adherence to the requirements of subparts B, C, D, F through M, and R of this part, would be duplicative or otherwise cause inefficiencies, HUD may modify or waive some or all of the requirements of the subparts in a manner that will promote efficiency while ensuring a comparable level of protection.

(b) Participant responsibility. Nothing in this part is intended to relieve any participant in a program covered by this subpart of any responsibility for compliance with State, tribal or local laws, ordinances, codes or regulations governing evaluation and hazard reduction. If a State, tribal or local law, ordinance, code or regulation defines lead-based paint differently than the Federal definition, the more protective definition (i.e., the lower level) shall be followed in that State, tribal or local jurisdiction.

Sec. 35.155 Minimum requirements.

(a) Nothing in subparts B, C, D, F through M, and R of this part is intended to preclude a designated party or occupant from conducting additional evaluation or hazard reduction measures beyond the minimum requirements established for each program in this regulation. For example, if the applicable subpart requires visual assessment, the designated party may choose to perform a risk assessment in accordance with Sec. 35.1320. Similarly, if the applicable subpart requires interim controls, a designated party or occupant may choose to implement abatement in accordance with Sec. 35.1325.

(b) To the extent that assistance from any of the programs covered by subparts B, C, D, and F through M of this part is used in conjunction with other HUD program assistance, the most protective requirements prevail.

Sec. 35.160 Waivers.

In accordance with Sec. 5.110 of this title, on a case-by-case basis and upon determination of good cause, HUD may, subject to statutory limitations, waive any provision of subparts B, C, D, F through M, and R of this part.

Sec. 35.165 Prior evaluation or hazard reduction.

If an evaluation or hazard reduction was conducted at a residential property or dwelling unit before the property or dwelling unit became subject to the requirements of subparts B, C, D, F through M, and R of this part, such an evaluation, hazard reduction or abatement meets the requirements of subparts B, C, D, F through M, and R of this part and need not be repeated under the following conditions:

(a) Lead-based paint inspection.

(1) A lead-based paint inspection conducted before March 1, 2000, meets the requirements of this part if:

(i) At the time of the inspection the lead-based paint inspector was approved by a State or Indian tribe to perform lead-based paint inspections. It is not necessary that the State or tribal approval program had EPA authorization at the time of the inspection.

(ii) Notwithstanding paragraph (a)(1)(i) of this section, the inspection was conducted and accepted as valid by a housing agency in fulfillment of the lead-based paint inspection requirement of the public and Indian housing program.

(2) A lead-based paint inspection conducted on or after March 1, 2000, must have been conducted by a certified lead-based paint inspector.

(b) Risk assessment.

(1) A risk assessment must be no more than 12 months old to be considered current.

(2) A risk assessment conducted before March 1, 2000, meets the requirements of this part if, at the time of the risk assessment, the risk assessor was approved by a state or Indian Tribe to perform risk

assessments. It is not necessary that the state or tribal approval program had EPA authorization at the time of the risk assessment.

(3) A risk assessment conducted on or after March 1, 2000, must have been conducted by a certified risk assessor.

(4) Paragraph (b) of this section does not apply in a case where a risk assessment is required in response to the identification of a child with an environmental intervention blood lead level. In such a case, the requirements in the applicable subpart for responding to a child with an environmental intervention blood lead level shall apply.

(c) Interim controls. If a residential property is under a program of interim controls and ongoing lead-based paint maintenance and reevaluation activities established pursuant to a risk assessment conducted in accordance with paragraph (b) of this section, the interim controls that have been conducted meet the requirements of this part if clearance was achieved after such controls were implemented. In such a case, the program of interim controls and ongoing activities shall be continued in accordance with the requirements of this part.

(d) Abatement.

(1) An abatement conducted before March 1, 2000, meets the requirements of this part if:

(i) At the time of the abatement the abatement supervisor was approved by a State or Indian tribe to perform lead-based paint abatement. It is not necessary that the State or tribal approval program had EPA authorization at the time of the abatement.

(ii) Notwithstanding paragraph (d)(1)(i) of this section, it was conducted and accepted by a housing agency in fulfillment of the lead-based paint abatement requirement of the public housing program or by an Indian housing authority (as formerly defined under the U.S. Housing Act of 1937) in fulfillment of the lead-based paint requirement of the Indian housing program formerly funded under the U.S. Housing Act of 1937.

(2) An abatement conducted on or after March 1, 2000, must have been conducted under the supervision of a certified lead-based paint abatement supervisor.

[64 FR 50208, Sept. 15, 1999; 65 FR 3387, Jan. 21, 2000]

Sec. 35.170 Noncompliance with the requirements of subparts B through R of this part.

(a) Monitoring and enforcement. A designated party who fails to comply with any requirement of subparts B, C, D, F through M, and R of this part shall be subject to the sanctions available under the relevant Federal housing assistance or ownership program and may be subject to other penalties authorized by law.

(b) A property owner who informs a potential purchaser or occupant of lead-based paint or possible lead-based paint hazards in a residential property or dwelling unit, in accordance with subpart A of this part, is not relieved of the requirements to evaluate and reduce lead-based paint hazards in accordance with subparts B through R of this part as applicable.

#### Sec. 35.175 Records.

The designated party, as specified in subparts C, D, and F through M of this part, shall keep a copy of each notice, evaluation, and clearance or abatement report required by subparts C, D, and F through M of this part for at least three years. Those records applicable to a portion of a residential property for which ongoing lead-based paint maintenance and/or reevaluation activities are required shall be kept and made available for the Department's review, until at least three years after such activities are no longer required.

#### Subpart C\_Disposition of Residential Property Owned by a Federal Agency Other Than HUD

Source: 64 FR 50208, Sept. 15, 1999, unless otherwise noted.

#### Sec. 35.200 Purpose and applicability.

The purpose of this subpart C is to establish procedures to eliminate as far as practicable lead-based paint hazards prior to the sale of a residential property that is owned by a Federal agency other than HUD. The requirements of this subpart apply to any residential property offered for sale on or after September 15, 2000.

#### Sec. 35.205 Definitions and other general requirements.

Definitions and other general requirements that apply to this subpart are found in subpart B of this part.

#### Sec. 35.210 Disposition of residential property constructed before 1960.

(a) Evaluation. The Federal agency shall conduct a risk assessment and a lead-based paint inspection in accordance with 40 CFR 745.227 before the closing of the sale.

(b) Abatement of lead-based paint hazards. The risk assessment used for the identification of hazards to be abated shall have been performed no more than 12 months before the beginning of the abatement. The Federal agency shall abate all identified lead-based paint hazards in accordance with 40 CFR 745.227. Abatement is completed when clearance is achieved in accordance with 40 CFR 745.227. Where abatement of lead-based paint hazards is not completed before the closing of the sale, the Federal agency shall be responsible for assuring that abatement is carried out by the purchaser before occupancy of the property as target housing and in accordance with 40 CFR 745.227.

Sec. 35.215 Disposition of residential property constructed after 1959 and before 1978.

The Federal agency shall conduct a risk assessment and a lead-based paint inspection in accordance with 40 CFR 745.227. Evaluation shall be completed before closing of the sale according to a schedule determined by the Federal agency. The results of the risk assessment and lead-based paint inspection shall be made available to prospective purchasers as required in subpart A of this part.

Subpart D\_Project-Based Assistance Provided by a Federal Agency Other Than HUD

Source: 64 FR 50209, Sept. 15, 1999, unless otherwise noted.

Sec. 35.300 Purpose and applicability.

The purpose of this subpart D is to establish procedures to eliminate as far as practicable lead-based paint hazards in a residential property that receives more than \$5,000 annually per project in project-based assistance on or after September 15, 2000, under a program administered by a Federal agency other than HUD.

Sec. 35.305 Definitions and other general requirements.

Definitions and other general requirements that apply to this subpart are found in subpart B of this part.

Sec. 35.310 Notices and pamphlet.

(a) Notice. A notice of evaluation or hazard reduction shall be provided to the occupants in accordance with Sec. 35.125.

(b) Lead hazard information pamphlet. The owner shall provide the lead hazard information pamphlet in accordance with Sec. 35.130.

Sec. 35.315 Risk assessment.

Each owner shall complete a risk assessment in accordance with 40 CFR 745.227(d). Each risk assessment shall be completed in accordance with the schedule established by the Federal agency.

Sec. 35.320 Hazard reduction.

Each owner shall conduct interim controls consistent with the findings of the risk assessment report. Hazard reduction shall be conducted in accordance with subpart R of this part.

Sec. 35.325 Child with an environmental intervention blood lead level.

If a child less than 6 years of age living in a federally assisted dwelling unit has an environmental intervention blood lead level, the owner shall immediately conduct a risk assessment in accordance with 40 CFR 745.227(d). Interim controls of identified lead-based paint hazards shall be conducted in accordance with Sec. 35.1330. Interim controls are complete when clearance is achieved in accordance with Sec. 35.1340. The Federal agency shall establish a timetable for completing risk assessments and hazard reduction when an environmental intervention blood lead level child is identified.

Subpart E [Reserved]

Subpart F\_HUD-Owned Single Family Property

Source: 64 FR 50209, Sept. 15, 1999, unless otherwise noted.

Sec. 35.500 Purpose and applicability.

The purpose of this subpart F is to establish procedures to eliminate as far as practicable lead-based paint hazards in HUD-owned single family properties that have been built before 1978 and are sold with mortgages insured under a program administered by HUD. The requirements of this subpart apply to any such residential properties offered for sale on or after September 15, 2000. Sec. 35.505 Definitions and other general requirements.

Definitions and other general requirements that apply to this subpart are found in subpart B of this part.

Sec. 35.510 Required procedures.

(a) The following activities shall be conducted for all properties to which this subpart is applicable:

(1) A visual assessment of all painted surfaces in order to identify deteriorated paint;

(2) Paint stabilization of all deteriorated paint in accordance with Sec. 35.1330(a) and (b); and

(3) Clearance in accordance with Sec. 35.1340.

(b) Occupancy shall not be permitted until all required paint stabilization is complete and clearance is achieved.

(c) If paint stabilization and clearance are not completed before the closing of the sale, the Department shall assure that paint stabilization and clearance are carried out pursuant to subpart R of this part by the purchaser before occupancy.

Subpart G\_Multifamily Mortgage Insurance

Source: 64 FR 50209, Sept. 15, 1999, unless otherwise noted.

Sec. 35.600 Purpose and applicability.

The purpose of this subpart G is to establish procedures to eliminate as far as practicable lead-based paint hazards in a multifamily residential property for which HUD is the owner of the mortgage or the owner receives mortgage insurance, under a program administered by HUD.

Sec. 35.605 Definitions and other general requirements.

Definitions and other general requirements that apply to this subpart are found in subpart B of this part.

Sec. 35.610 Exemption.

An application for insurance in connection with a refinancing transaction where an appraisal is not required under the applicable procedures established by HUD is excluded from the coverage of this subpart.

Sec. 35.615 Notices and pamphlet.



(a) Notice. If evaluation or hazard reduction is undertaken, the sponsor shall provide a notice to occupants in accordance with Sec. 35.125. A visual assessment alone is not considered an evaluation for the purposes of this part.

(b) Lead hazard information pamphlet. The sponsor shall provide the lead hazard information pamphlet in accordance with Sec. 35.130.

Sec. 35.620 Multifamily insured property constructed before 1960.

Except as provided in Sec. 35.630, the following requirements apply to multifamily insured property constructed before 1960:

(a) Risk assessment. Before the issuance of a firm commitment the sponsor shall conduct a risk assessment in accordance with Sec. 35.1320(b).

(b) Interim controls.

(1) The sponsor shall conduct interim controls in accordance with Sec. 35.1330 to treat the lead-based paint hazards identified in the risk assessment. Interim controls are considered completed when clearance is achieved in accordance with Sec. 35.1340.

(2) The sponsor shall complete interim controls before the issuance of the firm commitment or interim controls may be made a condition of the Federal Housing Administration (FHA) firm commitment, with sufficient repair or rehabilitation funds escrowed at initial endorsement of the FHA insured loan.

(c) Ongoing lead-based paint maintenance activities. Before the issuance of the firm commitment, the sponsor shall agree to incorporate ongoing lead-based paint maintenance into regular building operations and maintenance activities in accordance with Sec. 35.1355(a).

Sec. 35.625 Multifamily insured property constructed after 1959 and before 1978.

Except as provided in Sec. 35.630, before the issuance of the firm commitment, the sponsor shall agree to incorporate ongoing lead-based paint maintenance practices into regular building operations, in accordance with Sec. 35.1355(a). Sec. 35.630 Conversions and major rehabilitations.

The procedures and requirements of this section apply when a nonresidential property constructed before 1978 is to be converted to residential use, or a residential property constructed before 1978 is to

undergo rehabilitation that is estimated to cost more than 50 percent of the estimated replacement cost after rehabilitation.

(a) Lead-based paint inspection. Before issuance of a firm FHA commitment, the sponsor shall conduct a lead-based paint inspection in accordance with Sec. 35.1320(a).

(b) Abatement. Prior to occupancy, the sponsor shall conduct abatement of all lead-based paint on the property in accordance with Sec. 35.1325. Whenever practicable, abatement shall be achieved through the methods of paint removal or component replacement. If paint removal or component replacement are not practicable, that is if such methods would damage substrate material considered architecturally significant, permanent encapsulation or enclosure may be used as methods of abatement. Abatement is considered complete when clearance is achieved in accordance with Sec. 35.1340. If encapsulation or enclosure is used, the sponsor shall incorporate ongoing lead-based paint maintenance into regular building operations maintenance activities in accordance with Sec. 35.1355.

(c) Historic properties. Section 35.115(a)(13) applies to this section.

#### Subpart H--Project-Based Assistance

Source: 64 FR 50210, Sept. 15, 1999, unless otherwise noted.

Sec. 35.700 Purpose and applicability.

(a) This subpart H establishes procedures to eliminate as far as practicable lead-based paint hazards in residential properties receiving project-based assistance under a HUD program. The requirements of this subpart apply only to the assisted dwelling units in a covered property and any common areas servicing those dwelling units. This subpart does not apply to housing receiving rehabilitation assistance or to public housing, which are covered by subparts J and M of this part, respectively.

(b) For the purposes of competitively awarded grants under the Housing Opportunities for Persons with AIDS Program (HOPWA), the Supportive Housing Program (42 U.S.C. 11381-11389) and the Shelter Plus Care Program project-based rental assistance and sponsor-based rental assistance components (42 U.S.C. 11402-11407), the requirements of this subpart shall apply to grants awarded pursuant to Notices of Funding Availability published on or after October 1, 1999. For the purposes of formula grants awarded under the Housing Opportunities for Persons with AIDS Program (HOPWA) (42 U.S.C. 12901 et seq.), the requirements of this

subpart shall apply to activities for which program funds are first obligated on or after September 15, 2000.

Sec. 35.705 Definitions and other general requirements.

Definitions and other general requirements that apply to this subpart are found in subpart B of this part.

Sec. 35.710 Notices and pamphlet.

(a) Notice. If evaluation or hazard reduction is undertaken, each owner shall provide a notice to occupants in accordance with Sec. 35.125. A visual assessment alone is not considered an evaluation for the purposes of this part.

(b) Lead hazard information pamphlet. The owner shall provide the lead hazard information pamphlet in accordance with Sec. 35.130.

Sec. 35.715 Multifamily properties receiving more than \$5,000 per unit.

The requirements of this section shall apply to a multifamily residential property that is receiving an average of more than \$5,000 per assisted dwelling unit annually in project-based assistance.

(a) Risk assessment. Each owner shall complete a risk assessment in accordance with Sec. 35.1320(b). A risk assessment is considered complete when the owner receives the risk assessment report. Until the owner conducts a risk assessment as required by this section, the requirements of paragraph (d) of this section shall apply. After the risk assessment has been conducted the requirements of paragraphs (b) and (c) of this section shall apply. Each risk assessment shall be completed no later than the following schedule or a schedule otherwise determined by HUD:

(1) Risk assessments shall be completed on or before September 17, 2001, in a multifamily residential property constructed before 1960.

(2) Risk assessments shall be completed on or before September 15, 2003, in a multifamily residential property constructed after 1959 and before 1978.

(b) Interim controls. Each owner shall conduct interim controls in accordance with Sec. 35.1330 to treat the lead-based paint hazards identified in the risk assessment. Interim controls are considered completed when clearance is achieved in accordance with Sec. 35.1340. Interim controls shall be completed no later than the following schedule:

(1) In units occupied by families with children of less than 6 years of age and in common areas servicing those units, interim controls shall be completed no later than 90 days after the completion of the risk assessment. In units in which a child of less than 6 years of age moves in after the completion of the risk assessment, interim controls shall be completed no later than 90 days after the move-in.

(2) In all other dwelling units, common areas, and the remaining portions of the residential property, interim controls shall be completed no later than 12 months after completion of the risk assessment for those units.

(c) Ongoing lead-based paint maintenance and reevaluation activities. Effective immediately after completion of the risk assessment required in Sec. 35.715(a), the owner shall incorporate ongoing lead-based paint maintenance and reevaluation into the regular building operations in accordance with Sec. 35.1355, unless all lead-based paint has been removed. If the reevaluation identifies new lead-based paint hazards, the owner shall conduct interim controls in accordance with Sec. 35.1330.

(d) Transitional requirements--

(1) Effective date. The requirements of this paragraph shall apply effective September 15, 2000, and continuing until the applicable date specified in Sec. 35.715(a)(1) or (2) or until the owner conducts a risk assessment, whichever is first.

(2) Definitions and other general requirements that apply to this paragraph are found in subpart B of this part.

(3) Ongoing lead-based paint maintenance. The owner shall incorporate ongoing lead-based paint maintenance activities into regular building operations, in accordance with Sec. 35.1355(a), except that clearance is not required.

(4) Child with an environmental intervention blood lead level. If a child of less than 6 years of age living in a dwelling unit covered by this paragraph has an environmental intervention blood lead level, the owner shall comply with the requirements of Sec. 35.730.

Sec. 35.720 Multifamily properties receiving up to \$5,000 per unit, and single family properties.

Effective September 15, 2000, the requirements of this section shall apply to a multifamily residential property that is receiving an average of up to and including \$5,000 per assisted dwelling unit annually in project-based assistance and to a single family residential property that

is receiving project-based assistance through the Section 8 Moderate Rehabilitation program, the Project-Based Certificate program, or any other HUD program providing project-based assistance.

(a) Activities at initial and periodic inspection.--

(1) Visual assessment. During the initial and periodic inspections, an inspector trained in visual assessment for deteriorated paint surfaces in accordance with procedures established by HUD shall conduct a visual assessment of all painted surfaces in order to identify any deteriorated paint.

(2) Paint stabilization. The owner shall stabilize each deteriorated paint surface in accordance with Sec. 35.1330(a) and Sec. 35.1330(b) before occupancy of a vacant dwelling unit or, where a unit is occupied, within 30 days of notification of the results of the visual assessment. Paint stabilization is considered complete when clearance is achieved in accordance with Sec. 35.1340.

(3) Notice. The owner shall provide a notice to occupants in accordance with Secs. 35.125(b)(1) and (c) describing the results of the clearance examination.

(b) Ongoing lead-based paint maintenance activities. The owner shall incorporate ongoing lead-based paint maintenance activities into regular building operations in accordance with Sec. 35.1355(a), unless all lead-based paint has been removed.

(c) Child with an environmental intervention blood lead level. If a child of less than 6 years of age living in a dwelling unit covered by this section has an environmental intervention blood lead level, the owner shall comply with the requirements of Sec. 35.730.

Sec. 35.725 Section 8 Rent adjustments.

HUD may, subject to the availability of appropriations for Section 8 contract amendments, on a project by project basis for projects receiving Section 8 project-based assistance, provide adjustments to the maximum monthly rents to cover the costs of evaluation for and reduction of lead-based paint hazards, as defined in section 1004 of the Residential Lead-Based Paint Hazard Reduction Act of 1992.

Sec. 35.730 Child with an environmental intervention blood lead level.

(a) Risk assessment. Within 15 days after being notified by a public health department or other medical health care provider that a child of less than 6 years of age living in a dwelling unit to which this subpart

applies has been identified as having an environmental intervention blood lead level, the owner shall complete a risk assessment of the dwelling unit in which the child lived at the time the blood was last sampled and of common areas servicing the dwelling unit. The risk assessment shall be conducted in accordance with 35.1320(b) and is considered complete when the owner receives the risk assessment report. The requirements of this paragraph apply regardless of whether the child is or is not still living in the unit when the owner receives the notification of the environmental intervention blood lead level. The requirements of this paragraph (a) shall not apply if the owner conducted a risk assessment of the unit and common areas servicing the unit between the date the child's blood was last sampled and the date when the owner received the notification of the environmental intervention blood lead level. If a public health department has already conducted an evaluation of the dwelling unit, the requirements of this paragraph shall not apply.

(b) Verification. After receiving information from a person who is not a medical health care provider that a child of less than 6 years of age living in a dwelling unit covered by this subpart may have an environmental intervention blood lead level, the owner shall immediately verify the information with the public health department or other medical health care provider. If that department or provider verifies that the child has an environmental intervention blood lead level, such verification shall constitute notification, and the owner shall take the action required in paragraphs (a) and (c) of this section.

(c) Hazard reduction. Within 30 days after receiving the report of the risk assessment conducted pursuant to paragraph (a) of this section or the evaluation from the public health department, the owner shall complete the reduction of identified lead-based paint hazards in accordance with Sec. 35.1325 or Sec. 35.1330. Hazard reduction is considered complete when clearance is achieved in accordance with Sec. 35.1340 and the clearance report states that all lead-based paint hazards identified in the risk assessment have been treated with interim controls or abatement or the public health department certifies that the lead-based paint hazard reduction is complete. The requirements of this paragraph do not apply if the owner, between the date the child's blood was last sampled and the date the owner received the notification of the environmental intervention blood lead level, already conducted a risk assessment of the unit and common areas servicing the unit and completed reduction of identified lead-based paint hazards.

(d) Notice. If evaluation or hazard reduction is undertaken, each owner shall provide a notice to occupants in accordance with Sec. 35.125.

(e) Reporting requirement. The owner shall report the name and address of a child identified as having an environmental intervention

blood lead level to the public health department within 5 working days of being so notified by any other medical health care professional.

Subpart I\_HUD-Owned and Mortgagee-in-Possession Multifamily Property

Source: 64 FR 50211, Sept. 15, 1999, unless otherwise noted.

Sec. 35.800 Purpose and applicability.

The purpose of this subpart I is to establish procedures to eliminate as far as practicable lead-based paint hazards in a HUD-owned multifamily residential property or a multifamily residential property for which HUD is identified as mortgagee-in-possession. The requirements of this subpart apply to any such property that is offered for sale or held or managed on or after September 15, 2000.

Sec. 35.805 Definitions and other general requirements.

Definitions and other general requirements that apply to this subpart are found in subpart B of this part.

Sec. 35.810 Notices and pamphlet.

(a) Notices. When evaluation or hazard reduction is undertaken, the Department shall provide a notice to occupants in accordance with Sec. 35.125. A visual assessment alone is not considered an evaluation for the purposes of this part.

(b) Lead hazard information pamphlet. HUD shall provide the lead hazard information pamphlet in accordance with Sec. 35.130.

Sec. 35.815 Evaluation.

HUD shall conduct a risk assessment and a lead-based paint inspection in accordance with Sec. 35.1320(a) and (b). For properties to which this subpart applies on September 15, 2000, the lead-based paint inspection and risk assessment shall be conducted no later than December 15, 2000, or before publicly advertising the property for sale, whichever is sooner. For properties to which this subpart becomes applicable after September 15, 2000, the lead-based paint inspection and risk assessment shall be conducted no later than 90 days after this subpart becomes applicable or before publicly advertising the property for sale, whichever is sooner.

Sec. 35.820 Interim controls.

HUD shall conduct interim controls in accordance with Sec. 35.1330 to treat the lead-based paint hazards identified in the evaluation conducted

in accordance with Sec. 35.815. Interim controls are considered completed when clearance is achieved in accordance with Sec. 35.1340. Interim controls of all lead-based paint hazards shall be completed no later than the following schedule:

(a) In units occupied by families with children of less than 6 years of age and in common areas servicing those units, interim controls shall be completed no later than 90 days after the completion of the risk assessment. In units in which a child of less than 6 years of age moves in after the completion of the risk assessment, interim controls shall be completed no later than 90 days after the move-in.

(b) In all other dwelling units, common areas, and the remaining portions of the residential property, interim controls shall be completed no later than 12 months after completion of the risk assessment for those units.

(c) If conveyance of the title by HUD at a sale of a HUD-owned property or a foreclosure sale caused by HUD when HUD is mortgagee-in-possession occurs before the schedule in paragraphs (a) and (b) of this section, HUD shall complete interim controls before conveyance or foreclosure, or HUD shall be responsible for assuring that interim controls are carried out by the purchaser. If interim controls are made a condition of sale, such controls shall be completed according to the following schedule:

(1) In units occupied by families with children of less than 6 years of age and in common areas servicing those units, interim controls shall be completed no later than 90 days after the date of the closing of the sale. In units in which a child of less than 6 years of age moves in after the closing of the sale, interim controls shall be completed no later than 90 days after the move-in.

(2) In all other dwelling units, in common areas servicing those units, and in the remaining portions of the residential property, interim controls shall be completed no later than 180 days after the closing of the sale. Sec. 35.825 Ongoing lead-based paint maintenance and reevaluation.

HUD shall incorporate ongoing lead-based paint maintenance and reevaluation, in accordance with Sec. 35.1355, into regular building operations if HUD retains ownership of the residential property for more than 12 months.

Sec. 35.830 Child with an environmental intervention blood lead level.



(a) Risk assessment. Within 15 days after being notified by a public health department or other medical health care provider that a child of less than 6 years of age living in a multifamily dwelling unit owned by HUD (or where HUD is mortgagee-in-possession) has been identified as having an environmental intervention blood lead level, HUD shall complete a risk assessment of the dwelling unit in which the child lived at the time the blood was last sampled and of common areas servicing the dwelling unit. The risk assessment shall be conducted in accordance with Sec. 35.1320(b) and is considered complete when HUD receives the risk assessment report. The requirements of this paragraph apply regardless of whether the child is or is not still living in the unit when HUD receives the notification of the environmental intervention blood lead level. The requirements of this paragraph do not apply if HUD conducted a risk assessment of the unit and common areas servicing the unit between the date the child's blood was last sampled and the date when HUD received the notification of the environmental intervention blood lead level. If a public health department has already conducted an evaluation of the dwelling unit, the requirements of this paragraph shall not apply.

(b) Verification. After receiving information from a person who is not a medical health care provider that a child of less than 6 years of age living in a multifamily dwelling unit owned by HUD (or where HUD is mortgagee-in-possession) may have an environmental intervention blood lead level, HUD shall immediately verify the information with the public health department or other medical health care provider. If that department or provider verifies that the child has an environmental intervention blood lead level, such verification shall constitute notification, and HUD shall take the action required in paragraphs (a) and (c) of this section.

(c) Hazard reduction. Within 30 days after receiving the report of the risk assessment conducted pursuant to paragraph (a) of this section or the evaluation from the public health department, HUD shall complete the reduction of lead-based paint hazards identified in the risk assessment in accordance with Sec. 35.1325 or Sec. 35.1330. Hazard reduction is considered complete when clearance is achieved in accordance with Sec. 35.1340 and the clearance report states that all lead-based paint hazards identified in the risk assessment have been treated with interim controls or abatement or the public health department certifies that the lead-based paint hazard reduction is complete. The requirements of this paragraph do not apply if HUD, between the date the child's blood was last sampled and the date HUD received the notification of the environmental intervention blood lead level, conducted a risk assessment of the unit and common areas servicing the unit and completed reduction of identified lead-based paint hazards.

(d) Reporting requirement. HUD shall report the name and address of a child identified as having an environmental intervention blood lead level

to the public health department within 5 working days of being so notified by any other health professional.

(e) Closing. If the closing of a sale is scheduled during the period when HUD is responding to a case of a child with an environmental intervention blood lead level, HUD may arrange for the completion of the procedures required by Sec. 35.830(a)-(d) by the purchaser within a reasonable period of time.

(f) Extensions. The Assistant Secretary for Housing-Federal Housing Commissioner or designee may consider and approve a request for an extension of deadlines established by this section for a lead-based paint inspection, risk assessment, hazard reduction, and reporting. Such a request may be considered, however, only during the first six months during which HUD is owner or mortgagee-in-possession of a multifamily property.

#### Subpart J\_Rehabilitation

Source: 64 FR 50212, Sept. 15, 1999, unless otherwise noted.

Sec. 35.900 Purpose and applicability.

(a) Purpose and applicability.

(1) The purpose of this subpart J is to establish procedures to eliminate as far as practicable lead-based paint hazards in a residential property that receives Federal rehabilitation assistance under a program administered by HUD. Rehabilitation assistance does not include project-based rental assistance, rehabilitation mortgage insurance or assistance to public housing.

(2) The requirements of this subpart shall not apply to HOME funds which are committed to a specific project in accordance with Sec. 92.2 of this title before September 15, 2000. Such projects shall be subject to the requirements of Sec. 92.355 of this title that were in effect at the time of project commitment or the requirements of this subpart.

(3) For the purposes of the Indian Housing Block Grant program and the CDBG Entitlement program, the requirements of this subpart shall apply to all residential rehabilitation activities (except those otherwise exempted) for which funds are first obligated on or after September 15, 2000. For the purposes of the State, HUD-Administered Small Cities, and Insular Areas CDBG programs, the requirements of this subpart shall apply to all covered activities (except those otherwise exempted) for which grant funding is awarded to the unit of local government by the State or

HUD, as applicable, on or after September 15, 2000. For the purposes of the Emergency Shelter Grant Program (42 U.S.C. 11371-11378) and the formula grants awarded under the Housing Opportunities for Persons with AIDS Program (HOPWA) (42 U.S.C. 12901 et. seq.), the requirements of this subpart shall apply to activities for which program funds are first obligated on or after September 15, 2000.

(4) For the purposes of competitively awarded grants under the HOPWA Program and the Supportive Housing Program (42 U.S.C. 11481-11389), the requirements of this subpart shall apply to grants awarded under Notices of Funding Availability published on or after September 15, 2000.

(5) For the purposes of the Indian CDBG program (Sec. 1003.607 of this title), the requirements of this subpart shall not apply to funds whose notice of funding availability is announced or funding letter is sent before September 15, 2000. Such project grantees shall be subject to the regulations in effect at the time of announcement or funding letter.

(b) The grantee or participating jurisdiction may assign to a subrecipient or other entity the responsibilities set forth in this subpart.

Sec. 35.905 Definitions and other general requirements.

Definitions and other general requirements that apply to this subpart are found in subpart B of this part.

Sec. 35.910 Notices and pamphlet.

(a) Notices. In cases where evaluation or hazard reduction or both are undertaken as part of federally funded rehabilitation, the grantee or participating jurisdiction shall provide a notice to occupants in accordance with Sec. 35.125. A visual assessment alone is not considered an evaluation for the purposes of this part.

(b) Lead hazard information pamphlet. The grantee or participating jurisdiction shall provide the lead hazard information pamphlet in accordance with Sec. 35.130.

Sec. 35.915 Calculating rehabilitation costs, except for the CILP Program.

(a) Applicability. This section applies to recipients of Federal rehabilitation assistance.

(b) Rehabilitation assistance.

(1) Lead-based paint requirements for rehabilitation fall into three categories that depend on the amount of rehabilitation assistance provided. The three categories are:

(i) Assistance of up to and including \$5,000 per unit;

(ii) Assistance of more than \$5,000 per unit up to and including \$25,000 per unit; and

(iii) Assistance of more than \$25,000 per unit.

(2) For purposes of implementing Secs. 35.930 and 35.935, the amount of rehabilitation assistance is the lesser of two amounts: the average Federal assistance per assisted dwelling unit and the average per unit hard costs of rehabilitation. Federal assistance includes all Federal funds assisting the project, regardless of the use of the funds. Federal funds being used for acquisition of the property are to be included as well as funds for construction, permits, fees, and other project costs. The hard costs of rehabilitation include all hard costs, regardless of source, except that the costs of lead-based paint hazard evaluation and hazard reduction activities are not to be included. Costs of site preparation, occupant protection, relocation, interim controls, abatement, clearance, and waste handling attributable to compliance with the requirements of this part are not to be included in the hard costs of rehabilitation. All other hard costs are to be included, regardless of whether the source of funds is Federal or non-Federal, public or private.

(c) Calculating rehabilitation assistance in properties with both assisted and unassisted dwelling units. For a residential property that includes both federally assisted and non-assisted units, the rehabilitation costs and Federal assistance associated with non-assisted units are not included in the calculations of the average per unit hard costs of rehabilitation and the average Federal assistance per unit.

(1) The average per unit hard costs of rehabilitation for the assisted units is calculated using the following formula:

$$\text{Per Unit Hard Costs of Rehabilitation } \$ = (a/c) + (b/d)$$

Where:

a = Rehabilitation hard costs for all assisted units (not including common areas and exterior surfaces)

b = Rehabilitation hard costs for common areas and exterior painted surfaces

c = Number of federally assisted units

d = Total number of units

(2) The average Federal assistance per assisted dwelling unit is calculated using the following formula:

Per unit Federal assistance =  $e/c$

Where:

e = Total Federal assistance for the project

c = Number of federally assisted units

#### Sec. 35.925 Examples of determining applicable requirements.

The following examples illustrate how to determine whether the requirements of Secs. 35.930(b), (c), or (d) apply to a dwelling unit receiving Federal rehabilitation assistance (dollar amounts are on a per unit basis):

(a) If the total amount of Federal assistance for a dwelling is \$2,000, and the hard costs of rehabilitation are \$10,000, the lead-based paint requirements would be those described in Sec. 35.930(b), because Federal rehabilitation assistance is up to and including \$5,000.

(b) If the total amount of Federal assistance for a dwelling unit is \$6,000, and the hard costs of rehabilitation are \$2,000, the lead-based paint requirements would be those described in Sec. 35.930(b). Although the total amount of Federal dollars is more than \$5,000, only the \$2,000 of that total can be applied to rehabilitation. Therefore, the Federal rehabilitation assistance is \$2,000 which is not more than \$5,000.

(c) If the total amount of Federal assistance for a unit is \$6,000, and the hard costs of rehabilitation are \$6,000, the lead-based paint requirements are those described in Sec. 35.930(c), because the amount of Federal rehabilitation assistance is more than \$5,000 but not more than \$25,000.

(d) If eight dwelling units in a residential property receive Federal rehabilitation assistance [symbol c in Sec. 35.915(c)(2)] out of a total of 10 dwelling units [d], the total Federal assistance for the rehabilitation project is \$300,000 [e], the total hard costs of rehabilitation for the dwelling units are \$160,000 [a], and the total hard costs of rehabilitation for the common areas and exterior surfaces are \$20,000 [b], then the lead-based paint requirements would be those described in Sec. 35.930(c), because the level of Federal rehabilitation assistance is \$22,000, which is not greater than \$25,000. This is calculated as follows: The total Federal assistance per assisted unit is

\$37,500 ( $e/c = \$300,000/8$ ), the per unit hard costs of rehabilitation is \$22,000 ( $a/c + b/d = \$160,000/8 + \$20,000/10$ ), and the level of Federal rehabilitation assistance is the lesser of \$37,500 and \$22,000.

Sec. 35.930 Evaluation and hazard reduction requirements.

(a) Paint testing. The grantee or participating jurisdiction shall either perform paint testing on the painted surfaces to be disturbed or replaced during rehabilitation activities, or presume that all these painted surfaces are coated with lead-based paint.

(b) Residential property receiving an average of up to and including \$5,000 per unit in Federal rehabilitation assistance. Each grantee or participating jurisdiction shall:

(1) Conduct paint testing or presume the presence of lead-based paint, in accordance with paragraph (a) of this section. If paint testing indicates that the painted surfaces are not coated with lead-based paint, safe work practices and clearance are not required.

(2) Implement safe work practices during rehabilitation work in accordance with Sec. 35.1350 and repair any paint that is disturbed.

(3) After completion of any rehabilitation disturbing painted surfaces, perform a clearance examination of the worksite(s) in accordance with Sec. 35.1340. Clearance is not required if rehabilitation did not disturb painted surfaces of a total area more than that set forth in Sec. 35.1350(d).

(c) Residential property receiving an average of more than \$5,000 and up to and including \$25,000 per unit in Federal rehabilitation assistance. Each grantee or participating jurisdiction shall:

(1) Conduct paint testing or presume the presence of lead-based paint, in accordance with paragraph (a) of this section.

(2) Perform a risk assessment in the dwelling units receiving Federal assistance, in common areas servicing those units, and exterior painted surfaces, in accordance with Sec. 35.1320(b), before rehabilitation begins.

(3) Perform interim controls in accordance with Sec. 35.1330 of all lead-based paint hazards identified pursuant to paragraphs (c)(1) and (c)(2) of this section.

(4) Implement safe work practices during rehabilitation work in accordance with Sec. 35.1350 and repair any paint that is disturbed and is known or presumed to be lead-based paint.

(d) Residential property receiving an average of more than \$25,000 per unit in Federal rehabilitation assistance. Each grantee or participating jurisdiction shall:

(1) Conduct paint testing or presume the presence of lead-based paint in accordance with paragraph (a) of this section.

(2) Perform a risk assessment in the dwelling units receiving Federal assistance and in associated common areas and exterior painted surfaces in accordance with Sec. 35.1320(b) before rehabilitation begins.

(3) Abate all lead-based paint hazards identified by the paint testing or risk assessment conducted pursuant to paragraphs (d)(1) and (d)(2) of this section, in accordance with Sec. 35.1325, except that interim controls are acceptable on exterior surfaces that are not disturbed by rehabilitation and on paint-lead hazards that have an area smaller than the de minimis limits of Sec. 35.1350(d). If abatement of a paint-lead hazard is required, it is necessary to abate only the surface area with hazardous conditions.

(4) Implement safe work practices during rehabilitation work in accordance with Sec. 35.1350 and repair any paint that is disturbed and is known or presumed to be lead-based paint.

[64 FR 50214, Sept. 15, 1999; 65 FR 3387, Jan. 21, 2000]

Sec. 35.935 Ongoing lead-based paint maintenance activities.

In the case of a rental property receiving Federal rehabilitation assistance under the HOME program, the grantee or participating jurisdiction shall require the property owner to incorporate ongoing lead-based paint maintenance activities in regular building operations, in accordance with Sec. 35.1355(a).

Sec. 35.940 Special requirements for insular areas.

If a dwelling unit receiving Federal assistance under a program covered by this subpart is located in an insular area, the requirements of this section shall apply and the requirements of Sec. 35.930 shall not apply. All other sections of this subpart J shall apply. The insular area shall conduct the following activities for the dwelling unit, common areas

servicing the dwelling unit, and the exterior surfaces of the building in which the dwelling unit is located:

(a) Residential property receiving an average of up to and including \$5,000 per unit in Federal rehabilitation assistance.

(1) Implement safe work practices during rehabilitation work in accordance with Sec. 35.1350 and repair any paint that is disturbed by rehabilitation.

(2) After completion of any rehabilitation disturbing painted surfaces, perform a clearance examination of the worksite(s) in accordance with Sec. 35.1340. Clearance shall be achieved before residents are allowed to occupy the worksite(s). Clearance is not required if rehabilitation did not disturb painted surfaces of a total area more than that set forth in Sec. 35.1350(b).

(b) Residential property receiving an average of more than \$5,000 per unit in Federal rehabilitation assistance.

(1) Before beginning rehabilitation, perform a visual assessment of all painted surfaces in order to identify deteriorated paint.

(2) Perform paint stabilization of each deteriorated paint surface and each painted surface being disturbed by rehabilitation, in accordance with Secs. 35.1330(a) and (b).

(3) After completion of all paint stabilization, perform a clearance examination of the affected dwelling units and common areas in accordance with Sec. 35.1340. Clearance shall be achieved before residents are allowed to occupy rooms or spaces in which paint stabilization has been performed.

Subpart K\_Acquisition, Leasing, Support Services, or Operation

Source: 64 FR 50214, Sept. 15, 1999, unless otherwise noted.

Sec. 35.1000 Purpose and applicability.

(a) The purpose of this subpart K is to establish procedures to eliminate as far as practicable lead-based paint hazards in a residential property that receives Federal assistance under certain HUD programs for acquisition, leasing, support services, or operation. Acquisition, leasing, support services, and operation do not include mortgage insurance, sale of federally-owned housing, project-based or tenant-based rental assistance, rehabilitation assistance, or assistance to public



housing. For requirements pertaining to those activities or types of assistance, see the applicable subpart of this part.

(b) The grantee or participating jurisdiction may assign to a subrecipient or other entity the responsibilities set forth in this subpart.

(c) (1) The requirements of this subpart shall not apply to HOME funds which are committed to a specific project in accordance with Sec. 92.2 of this title before September 15, 2000. Such projects shall be subject to the requirements of Sec. 92.355 of this title that were in effect at the time of project commitment, or the requirements of this subpart.

(2) For purposes of the CDBG Entitlement program and the Indian Housing Block Grant program, the requirements of this subpart shall apply to activities (except those otherwise exempted) for which funds are first obligated on or after September 15, 2000. For the purposes of the State, HUD-Administered Small Cities, and Insular Areas CDBG programs, the requirements of this subpart shall apply to all covered activities (except those otherwise exempted) for which grant funding is awarded to the unit of local government by the State or HUD, as applicable, on or after September 15, 2000. For the purposes of the Emergency Shelter Grant Program (42 U.S.C. 11371-11378) and the formula grants awarded under the Housing Opportunities for Persons with AIDS Program (HOPWA) (42 U.S.C. 12901 et. seq.), the requirements of this subpart shall apply to activities for which program funds are first obligated on or after September 15, 2000.

(3) For the purposes of competitively awarded grants under the HOPWA Program and the Supportive Housing Program (42 U.S.C. 11481-11389), the requirements of this subpart shall apply to grants awarded under Notices of Funding Availability published on or after September 15, 2000.

(4) For the purposes of the Indian CDBG program (Sec. 1003.607 of this title), the requirements of this subpart shall not apply to funds whose notice of funding availability is announced or funding letter is sent before September 15, 2000. Such project grantees shall be subject to the regulations in effect at the time of announcement or funding letter.

[64 FR 50213, Sept. 15, 1999; 65 FR 3387, Jan. 21, 2000]

Sec. 35.1005 Definitions and other general requirements.

Definitions and other general requirements that apply to this subpart are found in subpart B of this part.

Sec. 35.1010 Notices and pamphlet.

(a) Notice. In cases where evaluation or hazard reduction, including paint stabilization, is undertaken, each grantee or participating jurisdiction shall provide a notice to residents in accordance with Sec. 35.125. A visual assessment is not considered an evaluation for purposes of this part.

(b) Lead hazard information pamphlet. The grantee or participating jurisdiction shall provide the lead hazard information pamphlet in accordance with Sec. 35.130.

Sec. 35.1015 Visual assessment, paint stabilization, and maintenance.

If a dwelling unit receives Federal assistance under a program covered by this subpart, each grantee or participating jurisdiction shall conduct the following activities for the dwelling unit, common areas servicing the dwelling unit, and the exterior surfaces of the building in which the dwelling unit is located:

(a) A visual assessment of all painted surfaces in order to identify deteriorated paint;

(b) Paint stabilization of each deteriorated paint surface, and clearance, in accordance with Secs. 35.1330(a) and (b), before occupancy of a vacant dwelling unit or, where a unit is occupied, immediately after receipt of Federal assistance; and

(c) The grantee or participating jurisdiction shall require the incorporation of ongoing lead-based paint maintenance activities into regular building operations, in accordance with Sec. 35.1355(a), if the dwelling unit has a continuing, active financial relationship with a Federal housing assistance program, except that mortgage insurance or loan guarantees are not considered to constitute an active programmatic relationship for the purposes of this part.

(d) The grantee or participating jurisdiction shall provide a notice to occupants in accordance with Secs. 35.125(b)(1) and (c), describing the results of the clearance examination.

Sec. 35.1020 Funding for evaluation and hazard reduction.

The grantee or participating jurisdiction shall determine whether the cost of evaluation and hazard reduction is to be borne by the owner/developer, the grantee or a combination of the owner/developer and the grantee, based on program requirements and local program design.

Subpart L\_Public Housing Programs

Source: 64 FR 50215, Sept. 15, 1999, unless otherwise noted.

Sec. 35.1100 Purpose and applicability.

The purpose of this subpart L is to establish procedures to eliminate as far as practicable lead-based paint hazards in residential property assisted under the U.S. Housing Act of 1937 (42 U.S.C. 1437 et seq.) but not including housing assisted under section 8 of the 1937 Act.

Sec. 35.1105 Definitions and other general requirements.

Definitions and other general requirements that apply to this subpart are found in subpart B of this part.

Sec. 35.1110 Notices and pamphlet.

(a) Notice. In cases where evaluation or hazard reduction is undertaken, each public housing agency (PHA) shall provide a notice to residents in accordance with Sec. 35.125. A visual assessment alone is not considered an evaluation for purposes of this part.

(b) Lead hazard information pamphlet. The PHA shall provide the lead hazard information pamphlet in accordance with Sec. 35.130.

Sec. 35.1115 Evaluation.

(a) A lead-based paint inspection shall be conducted in all public housing unless a lead-based paint inspection that meets the conditions of Sec. 35.165(a) has already been completed. If a lead-based paint inspection was conducted by a lead-based paint inspector who was not certified, the PHA shall review the quality of the inspection, in accordance with quality control procedures established by HUD, to determine whether the lead-based paint inspection has been properly performed and the results are reliable. Lead-based paint inspections of all housing to which this subpart applies shall be completed no later than September 15, 2000. Revisions or augmentations of prior inspections found to be of insufficient quality shall be completed no later than September 17, 2001.

(b) If a lead-based paint inspection has found the presence of lead-based paint, or if no lead-based paint inspection has been conducted, the PHA shall conduct a risk assessment according to the following schedule, unless a risk assessment that meets the conditions of Sec. 35.165(b) has already been completed:

(1) Risk assessments shall be completed on or before March 15, 2001, in a multifamily residential property constructed before 1960.

(2) Risk assessments shall be completed on or before March 15, 2002, in a multifamily residential property constructed after 1959 and before 1978.

(c) A PHA that advertises a construction contract (including architecture/engineering contracts) for bid or award or plans to start force account work shall not execute such contract until a lead-based paint inspection and, if required, a risk assessment, has taken place and any necessary abatement is included in the modernization budget, except for contracts solely for emergency work in accordance with Sec. 35.115(a)(9).

(d) The five-year funding request plan for CIAP and CGP shall be amended to include the schedule and funding for lead-based paint activities.

Sec. 35.1120 Hazard reduction.

(a) Each PHA shall, in accordance with Sec. 35.1325, abate all lead-based paint and lead-based paint hazards identified in the evaluations conducted pursuant to Sec. 35.1115. The PHA shall abate lead-based paint and lead-based paint hazards in accordance with Sec. 35.1325 during the course of physical improvements conducted under the modernization.

(b) In all housing where abatement of all lead-based paint and lead-based paint hazards required in paragraph (a) of this section has not yet occurred, each PHA shall conduct interim controls, in accordance with Sec. 35.1330, of the lead-based paint hazards identified in the most recent risk assessment.

(1) Interim controls of dwelling units in which any child who is less than 6 years of age resides and common areas servicing those dwelling units shall be completed within 90 days of the evaluation under Sec. 35.1330. If a unit becomes newly occupied by a family with a child of less than 6 years of age or such child moves into a unit, interim controls shall be completed within 90 days after the new occupancy or move-in if they have not already been completed.

(2) Interim controls in dwelling units not occupied by families with one or more children of less than 6 years of age, common areas servicing those units, and the remaining portions of the residential property shall be completed no later than 12 months after completion of the evaluation conducted under Sec. 35.1115.

(c) The PHA shall incorporate ongoing lead-based paint maintenance and reevaluation activities into regular building operations in accordance with Sec. 35.1355. In accordance with Sec. 35.115(a) (6) and (7), this requirement does not apply to a development or part thereof if it is to be demolished or disposed of in accordance with disposition requirements in part 970 of this title, provided the dwelling unit will remain unoccupied until demolition, or if it is not used and will not be used for human habitation.

Sec. 35.1125 Evaluation and hazard reduction before acquisition and development.

(a) For each residential property constructed before 1978 and proposed to be acquired for a family project (whether or not it will need rehabilitation) a lead-based paint inspection and risk assessment for lead-based paint hazards shall be conducted in accordance with Sec. 35.1320.

(b) If lead-based paint is found in a residential property to be acquired, the cost of evaluation and abatement shall be considered when making the cost comparison to justify new construction, as well as when meeting maximum total development cost limitations.

(c) If lead-based paint is found, compliance with this subpart is required, and abatement of lead-based paint and lead-based paint hazards shall be completed in accordance with Sec. 35.1325 before occupancy.

Sec. 35.1130 Child with an environmental intervention blood lead level.

(a) Risk assessment. Within 15 days after being notified by a public health department or other medical health care provider that a child of less than 6 years of age living in a public housing development has been identified as having an environmental intervention blood lead level, the PHA shall complete a risk assessment of the dwelling unit in which the child lived at the time the blood was last sampled and of common areas servicing the dwelling unit, the provisions of Sec. 35.1115(b) notwithstanding. The risk assessment shall be conducted in accordance with Sec. 35.1320(b) and is considered complete when the PHA receives the risk assessment report. The requirements of this paragraph apply regardless of whether the child is or is not still living in the unit when the PHA receives the notification of the environmental intervention blood lead level. The requirements of this paragraph shall not apply if the PHA conducted a risk assessment of the unit and common areas servicing the unit between the date the child's blood was last sampled and the date when the PHA received the notification of the environmental intervention blood lead level. If the public health department has already conducted an

evaluation of the dwelling unit, the requirements of this paragraph shall not apply.

(b) Verification. After receiving information from a person who is not a medical health care provider that a child of less than 6 years of age living in a public housing development may have an environmental intervention blood lead level, the PHA shall immediately verify the information with the public health department or other medical health care provider. If that department or provider verifies that the child has an environmental intervention blood lead level, such verification shall constitute notification, and the housing agency shall take the action required in paragraphs (a) and (c) of this section.

(c) Hazard reduction. Within 30 days after receiving the report of the risk assessment conducted pursuant to paragraph (a) of this section or the evaluation from the public health department, the PHA shall complete the reduction of lead-based paint hazards identified in the risk assessment in accordance with Sec. 35.1325 or Sec. 35.1330. Hazard reduction is considered complete when clearance is achieved in accordance with Sec. 35.1340 and the clearance report states that all lead-based paint hazards identified in the risk assessment have been treated with interim controls or abatement or the local or State health department certifies that lead-based paint hazard reduction is complete. The requirements of this paragraph do not apply if the PHA, between the date the child's blood was last sampled and the date the owner received the notification of the environmental intervention blood lead level, already conducted a risk assessment of the unit and common areas servicing the unit and completed reduction of identified lead-based paint hazards.

(d) Notice of evaluation and hazard reduction. The PHA shall notify building residents of any evaluation or hazard reduction activities in accordance with Sec. 35.125.

(e) Reporting requirement. The PHA shall report the name and address of a child identified as having an environmental intervention blood lead level to the public health department within 5 working days of being so notified by any other medical health care professional. The PHA shall also report each known case of a child with an environmental intervention blood lead level to the HUD field office.

(f) Other units in building. If the risk assessment conducted pursuant to paragraph (a) of this section identifies lead-based paint hazards and previous evaluations of the building conducted pursuant to Sec. 35.1320 did not identify lead-based paint or lead-based paint hazards, the PHA shall conduct a risk assessment of other units of the building in accordance with Sec. 35.1320(b) and shall conduct interim

controls of identified hazards in accordance with the schedule provided in Sec. 35.1120(c).

Sec. 35.1135 Eligible costs.

A PHA may use financial assistance received under the modernization program (CIAP or CGP) for the notice, evaluation and reduction of lead-based paint hazards in accordance with Sec. 968.112 of this title. Eligible costs include:

(a) Evaluation and insurance costs. Evaluation and hazard reduction activities, and costs for insurance coverage associated with these activities.

(b) Planning costs. Planning costs are costs that are incurred before HUD approval of the CGP or CIAP application and that are related to developing the CIAP application or carrying out eligible modernization planning, such as planning for abatement, detailed design work, preparation of solicitations, and evaluation. Planning costs may be funded as a single work item. Planning costs shall not exceed 5 percent of the CIAP funds available to a HUD Field Office in a particular fiscal year.

(c) Architectural/engineering and consultant fees. Eligible costs include fees for planning, identification of needs, detailed design work, preparation of construction and bid documents and other required documents, evaluation, planning and design for abatement, and inspection of work in progress.

(d) Environmental intervention blood lead level response costs. The PHA may use its operating reserves and, when necessary, may request reimbursement from the current fiscal year CIAP funds, or request the reprogramming of previously approved CIAP funds to cover the costs of evaluation and hazard reduction.

Sec. 35.1140 Insurance coverage.

For the requirements concerning the obligation of a PHA to obtain reasonable insurance coverage with respect to the hazards associated with evaluation and hazard reduction activities, see Sec. 965.215 of this title.

Subpart M\_Tenant-Based Rental Assistance

Source: 64 FR 50216, Sept. 15, 1999, unless otherwise noted.

Sec. 35.1200 Purpose and applicability.

(a) Purpose. The purpose of this subpart M is to establish procedures to eliminate as far as practicable lead-based paint hazards in housing occupied by families receiving tenant-based rental assistance. Such assistance includes tenant-based rental assistance under the Section 8 certificate program, the Section 8 voucher program, the HOME program, the Shelter Plus Care program, the Housing Opportunities for Persons With AIDS (HOPWA) program, and the Indian Housing Block Grant program. Tenant-based rental assistance means rental assistance that is not attached to the structure.

(b) Applicability.

(1) This subpart applies only to dwelling units occupied or to be occupied by families or households that have one or more children of less than 6 years of age, common areas servicing such dwelling units, and exterior painted surfaces associated with such dwelling units or common areas. Common areas servicing a dwelling unit include those areas through which residents pass to gain access to the unit and other areas frequented by resident children of less than 6 years of age, including on-site play areas and child care facilities.

(2) For the purposes of the Section 8 tenant-based certificate program and the Section 8 voucher program:

(i) The requirements of this subpart are applicable where an initial or periodic inspection occurs on or after September 15, 2000; and

(ii) The PHA shall be the designated party.

(3) For the purposes of formula grants awarded under the Housing Opportunities for Persons with AIDS Program (HOPWA) (42 U.S.C. 12901 et seq.):

(i) The requirements of this subpart shall apply to activities for which program funds are first obligated on or after September 15, 2000; and

(ii) The grantee shall be the designated party.

(4) For the purposes of competitively awarded grants under the HOPWA Program and the Shelter Plus Care program (42 U.S.C. 11402-11407) tenant-based rental assistance component:

(i) The requirements of this subpart shall apply to grants awarded pursuant to Notices of Funding Availability published on or after September 15, 2000; and



(ii) The grantee shall be the designated party.

(5) For the purposes of the HOME program:

(i) The requirements of this subpart shall not apply to funds which are committed in accordance with Sec. 92.2 of this title before September 15, 2000; and

(ii) The participating jurisdiction shall be the designated party.

(6) For the purposes of the Indian Housing Block Grant program:

(i) The requirements of this subpart shall apply to activities for which funds are first obligated on or after September 15, 2000; and

(ii) The IHBG recipient shall be the designated party.

(7) The housing agency, grantee, participating jurisdiction, or IHBG recipient may assign to a subrecipient or other entity the responsibilities of the designated party in this subpart.

[64 FR 50216, Sept. 15, 1999; 65 FR 3387, Jan. 21, 2000]

Sec. 35.1205 Definitions and other general requirements.

Definitions and other general requirements that apply to this subpart are found in subpart B of this part.

Sec. 35.1210 Notices and pamphlet.

(a) Notice. In cases where evaluation or paint stabilization is undertaken, the owner shall provide a notice to residents in accordance with Sec. 35.125. A visual assessment alone is not considered an evaluation for purposes of this part.

(b) Lead hazard information pamphlet. The owner shall provide the lead hazard information pamphlet in accordance with Sec. 35.130.

Sec. 35.1215 Activities at initial and periodic inspection.

(a) (1) During the initial and periodic inspections, an inspector acting on behalf of the designated party and trained in visual assessment for deteriorated paint surfaces in accordance with procedures established

by HUD shall conduct a visual assessment of all painted surfaces in order to identify any deteriorated paint.

(2) For tenant-based rental assistance provided under the HOME program, visual assessment shall be conducted as part of the initial and periodic inspections required under Sec. 92.209(i) of this title.

(b) The owner shall stabilize each deteriorated paint surface in accordance with Sec. 35.1330(a) and (b) before commencement of assisted occupancy. If assisted occupancy has commenced prior to a periodic inspection, such paint stabilization must be completed within 30 days of notification of the owner of the results of the visual assessment. Paint stabilization is considered complete when clearance is achieved in accordance with Sec. 35.1340. If the owner does not complete the hazard reduction required by this section, the dwelling unit is in violation of Housing Quality Standards (HQS) until the hazard reduction is completed or the unit is no longer covered by this subpart because the unit is no longer under a housing assistance payment (HAP) contract with the housing agency.

(c) The owner shall provide a notice to occupants in accordance with Sec. 35.125(b)(1) and (c) describing the results of the clearance examination.

(d) The designated party may grant the owner an extension of time to complete paint stabilization and clearance for reasonable cause, but such an extension shall not extend beyond 90 days after the date of notification to the owner of the results of the visual assessment.

Sec. 35.1220 Ongoing lead-based paint maintenance activities.

Notwithstanding the designation of the PHA, grantee, participating jurisdiction, or Indian Housing Block Grant (IHBG) recipient as the designated party for this subpart, the owner shall incorporate ongoing lead-based paint maintenance activities into regular building operations in accordance with Sec. 35.1355(a).

Sec. 35.1225 Child with an environmental intervention blood lead level.

(a) Within 15 days after being notified by a public health department or other medical health care provider that a child of less than 6 years of age living in an assisted dwelling unit has been identified as having an environmental intervention blood lead level, the designated party shall complete a risk assessment of the dwelling unit in which the child lived at the time the blood was last sampled and of the common areas servicing the dwelling unit. The risk assessment shall be conducted in accordance with Sec. 35.1320(b). When the risk assessment is complete, the designated

party shall immediately provide the report of the risk assessment to the owner of the dwelling unit. If the child identified as having an environmental intervention blood lead level is no longer living in the unit when the designated party receives notification from the public health department or other medical health care provider, but another household receiving tenant-based rental assistance is living in the unit or is planning to live there, the requirements of this section apply just as they do if the child still lives in the unit. If a public health department has already conducted an evaluation of the dwelling unit, or the designated party conducted a risk assessment of the unit and common areas servicing the unit between the date the child's blood was last sampled and the date when the designated party received the notification of the environmental intervention blood lead level, the requirements of this paragraph shall not apply.

(b) Verification. After receiving information from a source other than a public health department or other medical health care provider that a child of less than 6 years of age living in an assisted dwelling unit may have an environmental intervention blood lead level, the designated party shall immediately verify the information with a public health department or other medical health care provider. If that department or provider verifies that the child has an environmental intervention blood lead level, such verification shall constitute notification to the designated party as provided in paragraph (a) of this section, and the designated party shall take the action required in paragraphs (a) and (c) of this section.

(c) Hazard reduction. Within 30 days after receiving the risk assessment report from the designated party or the evaluation from the public health department, the owner shall complete the reduction of identified lead-based paint hazards in accordance with Sec. 35.1325 or Sec. 35.1330. Hazard reduction is considered complete when clearance is achieved in accordance with Sec. 35.1340 and the clearance report states that all lead-based paint hazards identified in the risk assessment have been treated with interim controls or abatement or when the public health department certifies that the lead-based paint hazard reduction is complete. If the owner does not complete the hazard reduction required by this section, the dwelling unit is in violation of Housing Quality Standards (HQS).

(d) Notice of evaluation and hazard reduction. The owner shall notify building residents of any evaluation or hazard reduction activities in accordance with Sec. 35.125.

(e) Reporting requirement. The designated party shall report the name and address of a child identified as having an environmental intervention

blood lead level to the public health department within 5 working days of being so notified by any other medical health care professional.

(f) Data collection and record keeping responsibilities. At least quarterly, the designated party shall attempt to obtain from the public health department(s) with area(s) of jurisdiction similar to that of the designated party the names and/or addresses of children of less than 6 years of age with an identified environmental intervention blood lead level. At least quarterly, the designated party shall also report an updated list of the addresses of units receiving assistance under a tenant-based rental assistance program to the same public health department(s), except that the report(s) to the public health department(s) is not required if the health department states that it does not wish to receive such report. If it obtains names and addresses of environmental intervention blood lead level children from the public health department(s), the designated party shall match information on cases of environmental intervention blood lead levels with the names and addresses of families receiving tenant-based rental assistance, unless the public health department performs such a matching procedure. If a match occurs, the designated party shall carry out the requirements of this section.

Subparts N-Q [Reserved]

Subpart R Methods and Standards for Lead-Paint Hazard Evaluation and Hazard Reduction Activities

Source: 64 FR 50218, Sept. 15, 1999, unless otherwise noted.

Sec. 35.1300 Purpose and applicability.

The purpose of this subpart R is to provide standards and methods for evaluation and hazard reduction activities required in subparts B, C, D, and F through M of this part.

Sec. 35.1305 Definitions and other general requirements.

Definitions and other general requirements that apply to this subpart are found in subpart B of this part.

Sec. 35.1310 References.

Further guidance information regarding evaluation and hazard reduction activities described in this subpart is found in the following:

(a) The HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (Guidelines);

(b) The EPA Guidance on Residential Lead-Based Paint, Lead-Contaminated Dust, and Lead Contaminated Soil;

(c) Guidance, methods or protocols issued by States and Indian tribes that have been authorized by EPA under 40 CFR 745.324 to administer and enforce lead-based paint programs.

Sec. 35.1315 Collection and laboratory analysis of samples.

All paint chip, dust, or soil samples shall be collected and analyzed in accordance with standards established either by a State or Indian tribe under a program authorized by EPA in accordance with 40 CFR part 745, subpart Q, or by the EPA in accordance with 40 CFR 745.227, and as further provided in this subpart.

Sec. 35.1320 Lead-based paint inspections and risk assessments.

(a) Lead-based paint inspections and paint testing. Lead-based paint inspections shall be performed in accordance with methods and standards established either by a State or Tribal program authorized by the EPA under 40 CFR 745.324, or by the EPA at 40 CFR 745.227(b) and (h). Paint testing to determine the presence or absence of lead-based paint on deteriorated paint surfaces or surfaces to be disturbed or replaced shall be performed by a certified lead-based paint inspector or risk assessor.

(b) Risk assessments, lead-hazard screens and reevaluations.

(1) Risk assessments and lead-hazard screens shall be performed in accordance with methods and standards established either by a state or tribal program authorized by the EPA, or by the EPA at 40 CFR 745.227(c), (d), and (h) and paragraph (b)(2) of this section. Reevaluations shall be performed by a certified risk assessor in accordance with Sec. 35.1355(b) and paragraph (b)(2) of this section.

(2) Risk assessors shall use standards for determining dust-lead hazards and soil-lead hazards that are at least as protective as those promulgated by the EPA at 40 CFR 745.227(h) or, if such standards are not in effect, the following levels for dust or soil:

(i) Dust. A dust-lead hazard is surface dust that contains a mass- per-area concentration (loading) of lead, based on wipe samples, equal to or exceeding the applicable level in the following table:

Dust Lead Standards

Surface

Evaluation method	Surface		
	Floors, $\mu\text{g}/\text{ft}^2$ ( $\text{mg}/\text{m}^2$ )	Interior window sills, $\mu\text{g}/\text{ft}^2$ ( $\text{mg}/\text{m}^2$ )	Window troughs, $\mu\text{g}/\text{ft}^2$ ( $\mu\text{g}/\text{m}^2$ )
Risk Assessment.....	40 (0.43)	250 (2.7)	Not Applicable.
Lead Hazard Screen.....	25 (0.27)	125 (1.4)	Not Applicable.
Reevaluation.....	40 (0.43)	250 (2.7)	Not Applicable.
Clearance.....	40 (0.43)	250 (2.7)	400 (4.3).

Note 1: "Floors" includes carpeted and uncarpeted interior floors.

Note 2: A dust-lead hazard is present or clearance fails when the weighted arithmetic mean lead loading for all single-surface or composite samples is equal to or greater than the applicable standard. For composite samples of two to four subsamples, the standard is determined by dividing the standard in the table by one half the number of subsamples. See EPA regulations at 40 CFR 745.63 and 745.227(h)(3)(i).

(ii) Soil.

(A) A soil-lead hazard for play areas frequented by children under six years of age is bare soil with lead equal to or exceeding 400 parts per million (micrograms per gram).

(B) For the rest of the yard, a soil-lead hazard is bare soil that totals more than 9 square feet (0.8 square meters) per property with lead equal to or exceeding an average of 1,200 parts per million (micrograms per gram).

(3) Lead-hazard screens shall be performed in accordance with the methods and standards established either by a state or Tribal program authorized by the EPA, or by the EPA at 40 CFR 745.227(c), and paragraphs (b)(1) and (b)(2) of this section. If the lead-hazard screen indicates the need for a follow-up risk assessment (e.g., if dust-lead measurements exceed the levels established for lead-hazard screens in paragraph (b)(2)(i) of this section), a risk assessment shall be conducted in accordance with paragraphs (b)(1) and (b)(2) of this section. Dust, soil, and paint samples collected for the lead-hazard screen may be used in the risk assessment. If the lead hazard screen does not indicate the need for a follow-up risk assessment, no further risk assessment is required.

(c) It is strongly recommended, but not required, that lead-based paint inspectors, risk assessors, and sampling technicians provide a plain-language summary of the results suitable for posting or distribution to occupants in compliance with Sec. 35.125.

Sec. 35.1325 Abatement.

Abatement shall be performed in accordance with methods and standards established either by a State or Indian tribe under a program authorized by EPA, or by EPA at 40 CFR 745.227(e), and shall be completed by achieving clearance in accordance with Sec. 35.1340. If encapsulation or enclosure is used as a method of abatement, ongoing lead-based paint maintenance activities shall be performed as required by the applicable subpart of this part in accordance with Sec. 35.1355. Abatement of an intact, factory-applied prime coating on metal surfaces is not required unless the surface is a friction surface.

Sec. 35.1330 Interim controls.

Interim controls of lead-based paint hazards identified in a risk assessment shall be conducted in accordance with the provisions of this section. Interim control measures include paint stabilization of deteriorated paint, treatments for friction and impact surfaces where levels of lead dust are above the levels specified in Sec. 35.1320, dust control, and lead-contaminated soil control. As provided by Sec. 35.155, interim controls may be performed in combination with, or be replaced by, abatement methods.

(a) General requirements.

(1) Only those interim control methods identified as acceptable methods in a current risk assessment report shall be used to control identified hazards, except that, if only paint stabilization is required in accordance with subparts F, H, K or M of this part, it shall not be necessary to have conducted a risk assessment.

(2) Occupants of dwelling units where interim controls are being performed shall be protected during the course of the work in accordance with Sec. 35.1345.

(3) Clearance testing shall be performed at the conclusion of interim control activities in accordance with Sec. 35.1340.

(4) A person performing interim controls must be trained in accordance with the hazard communication standard for the construction industry issued by the Occupational Safety and Health Administration of the U.S. Department of Labor at 29 CFR 1926.59, and either be supervised by an individual certified as a lead-based paint abatement supervisor or have completed successfully one of the following lead-safe work practices courses, except that this supervision or lead-safe work practices training

requirement does not apply to work that disturbs painted surfaces less than the de minimis limits of Sec. 35.1350(d):

(i) A lead-based paint abatement supervisor course accredited in accordance with 40 CFR 745.225;

(ii) A lead-based paint abatement worker course accredited in accordance with 40 CFR 745.225; or

(iii) Another course approved by HUD for this purpose after consultation with the EPA. A current list of approved courses is available on the Internet at <http://www.hud.gov/offices/lead>, or by mail or fax from the HUD Office of Healthy Homes and Lead Hazard Control at (202) 755-1785, extension 104 (this is not a toll-free number). Persons with hearing or speech impediments may access the above telephone number via phone or TTY by calling the toll-free Federal Information Relay Service at (800) 877-8339.

(b) Paint stabilization.

(1) Interim control treatments used to stabilize deteriorated lead-based paint shall be performed in accordance with the requirements of this section. Interim control treatments of intact, factory applied prime coatings on metal surfaces are not required. Finish coatings on such surfaces shall be treated by interim controls if those coatings contain lead-based paint.

(2) Any physical defect in the substrate of a painted surface or component that is causing deterioration of the surface or component shall be repaired before treating the surface or component. Examples of defective substrate conditions include dry-rot, rust, moisture-related defects, crumbling plaster, and missing siding or other components that are not securely fastened.

(3) Before applying new paint, all loose paint and other loose material shall be removed from the surface to be treated. Acceptable methods for preparing the surface to be treated include wet scraping, wet sanding, and power sanding performed in conjunction with a HEPA filtered local exhaust attachment operated according to the manufacturer's instructions.

(4) Dry sanding or dry scraping is permitted only in accordance with Sec. 35.140(e) (i.e., for electrical safety reasons or for specified minor amounts of work).

(5) Paint stabilization shall include the application of a new protective coating or paint. The surface substrate shall be dry and



protected from future moisture damage before applying a new protective coating or paint. All protective coatings and paints shall be applied in accordance with the manufacturer's recommendations.

(6) Paint stabilization shall incorporate the use of safe work practices in accordance with Sec. 35.1350.

(c) Friction and impact surfaces.

(1) Friction surfaces are required to be treated only if:

(i) Lead dust levels on the nearest horizontal surface underneath the friction surface (e.g., the window sill, window trough, or floor) are equal to or greater than the standards specified in 35.1320(b);

(ii) There is evidence that the paint surface is subject to abrasion; and

(iii) Lead-based paint is known or presumed to be present on the friction surface.

(2) Impact surfaces are required to be treated only if:

(i) Paint on an impact surface is damaged or otherwise deteriorated;

(ii) The damaged paint is caused by impact from a related building component (such as a door knob that knocks into a wall, or a door that knocks against its door frame); and

(iii) Lead-based paint is known or presumed to be present on the impact surface.

(3) Examples of building components that may contain friction or impact surfaces include the following:

(i) Window systems;

(ii) Doors;

(iii) Stair treads and risers;

(iv) Baseboards;

(v) Drawers and cabinets; and

(vi) Porches, decks, interior floors, and any other painted surfaces that are abraded, rubbed, or impacted.

(4) Interim control treatments for friction surfaces shall eliminate friction points or treat the friction surface so that paint is not subject to abrasion. Examples of acceptable treatments include rehanging and/or planing doors so that the door does not rub against the door frame, and installing window channel guides that reduce or eliminate abrasion of painted surfaces. Paint on stair treads and floors shall be protected with a durable cover or coating that will prevent abrasion of the painted surfaces. Examples of acceptable materials include carpeting, tile, and sheet flooring.

(5) Interim control treatments for impact surfaces shall protect the paint from impact. Examples of acceptable treatments include treatments that eliminate impact with the paint surface, such as a door stop to prevent a door from striking a wall or baseboard.

(6) Interim control for impact or friction surfaces does not include covering such a surface with a coating or other treatment, such as painting over the surface, that does not protect lead-based paint from impact or abrasion.

(d) Chewable surfaces.

(1) Chewable surfaces are required to be treated only if there is evidence of teeth marks, indicating that a child of less than six years of age has chewed on the painted surface, and lead-based paint is known or presumed to be present on the surface.

(2) Interim control treatments for chewable surfaces shall make the lead-based paint inaccessible for chewing by children of less than 6 years of age. Examples include enclosures or coatings that cannot be penetrated by the teeth of such children.

(e) Dust-lead hazard control.

(1) Interim control treatments used to control dust-lead hazards shall be performed in accordance with the requirements of this section. Additional information on dust removal is found in the HUD Guidelines, particularly Chapter 11 (see Sec. 35.1310).

(2) Dust control shall involve a thorough cleaning of all horizontal surfaces, such as interior window sills, window troughs, floors, and stairs, but excluding ceilings. All horizontal surfaces, such as floors, stairs, window sills and window troughs, that are rough,

pitted, or porous shall be covered with a smooth, cleanable covering or coating, such as metal coil stock, plastic, polyurethane, or linoleum.

(3) Surfaces covered by a rug or carpeting shall be cleaned as follows:

(i) The floor surface under a rug or carpeting shall be cleaned where feasible, including upon removal of the rug or carpeting, with a HEPA vacuum or other method of equivalent efficacy.

(ii) An unattached rug or an attached carpet that is to be removed, and padding associated with such rug or carpet, located in an area of the dwelling unit with dust-lead hazards on the floor, shall be thoroughly vacuumed with a HEPA vacuum or other method of equivalent efficacy. Protective measures shall be used to prevent the spread of dust during removal of a rug, carpet or padding from the dwelling. For example, it shall be misted to reduce dust generation during removal. The item(s) being removed shall be wrapped or otherwise sealed before removal from the worksite.

(iii) An attached carpet located in an area of the dwelling unit with dust-lead hazards on the floor shall be thoroughly vacuumed with a HEPA vacuum or other method of equivalent efficacy if it is not to be removed.

(f) Soil-lead hazards.

(1) Interim control treatments used to control soil-lead hazards shall be performed in accordance with this section.

(2) Soil with a lead concentration equal to or greater than 5,000  $\mu\text{g/g}$  of lead shall be abated in accordance with 40 CFR 745.227(e).

(3) Acceptable interim control methods for soil lead are impermanent surface coverings and land use controls.

(i) Impermanent surface coverings may be used to treat lead-contaminated soil if applied in accordance with the following requirements. Examples of acceptable impermanent coverings include gravel, bark, sod, and artificial turf.

(A) Impermanent surface coverings selected shall be designed to withstand the reasonably-expected traffic. For example, if the area to be treated is heavily traveled, neither grass or sod shall be used.

(B) When loose impermanent surface coverings such as bark or gravel are used, they shall be applied in a thickness not less than six inches deep.

(C) The impermanent surface covering material shall not contain more than 400 µg/g of lead.

(D) Adequate controls to prevent erosion shall be used in conjunction with impermanent surface coverings.

(ii) Land use controls may be used to reduce exposure to soil-lead hazards only if they effectively control access to areas with soil-lead hazards. Examples of land use controls include: fencing, warning signs, and landscaping.

(A) Land use controls shall be implemented only if residents have reasonable alternatives to using the area to be controlled.

(B) If land use controls are used for a soil area that is subject to erosion, measures shall be taken to contain the soil and control dispersion of lead.

#### Sec. 35.1335 Standard treatments.

Standard treatments shall be conducted in accordance with this section.

(a) Paint stabilization. All deteriorated paint on exterior and interior surfaces located on the residential property shall be stabilized in accordance with Sec. 35.1330(a)(b), or abated in accordance with Sec. 35.1325.

(b) Smooth and cleanable horizontal surfaces. All horizontal surfaces, such as uncarpeted floors, stairs, interior window sills and window troughs, that are rough, pitted, or porous, shall be covered with a smooth, cleanable covering or coating, such as metal coil stock, plastic, polyurethane, or linoleum.

(c) Correcting dust-generating conditions. Conditions causing friction or impact of painted surfaces shall be corrected in accordance with Sec. 35.1330(c)(4)-(6).

(d) Bare residential soil. Bare soil shall be treated in accordance with the requirements of Sec. 35.1330, unless it is found not to be a soil-lead hazard in accordance with Sec. 35.1320(b).

(e) Safe work practices. All standard treatments described in paragraphs (a) through (d) of this section shall incorporate the use of safe work practices in accordance with Sec. 35.1350.

(f) Clearance. A clearance examination shall be performed in accordance with Sec. 35.1340 at the conclusion of any lead hazard reduction activities.

(g) Qualifications. An individual performing standard treatments must meet the training and/or supervision requirements of Sec. 35.1330(a)(4).

Sec. 35.1340 Clearance.

Clearance examinations required under subparts B, C, D, F through M, and R, of this part shall be performed in accordance with the provisions of this section.

(a) Clearance following abatement. Clearance examinations performed following abatement of lead-based paint or lead-based paint hazards shall be performed in accordance with 40 CFR 745.227(e) and paragraphs (c)-(f) of this section. Such clearances shall be performed by a person certified to perform risk assessments or lead-based paint inspections.

(b) Clearance following activities other than abatement. Clearance examinations performed following interim controls, paint stabilization, standard treatments, ongoing lead-based paint maintenance, or rehabilitation shall be performed in accordance with the requirements of this paragraph (b) and paragraphs (c) through (g) of this section. Clearance is not required if the work being cleared does not disturb painted surfaces of a total area more than that set forth in Sec. 35.1350(d).

(1) Qualified personnel. Clearance examinations shall be performed by:

(i) A certified risk assessor;

(ii) A certified lead-based paint inspector;

(iii) A person who has successfully completed a training course for sampling technicians (or a discipline of similar purpose and title) that is developed or accepted by EPA or a State or tribal program authorized by EPA pursuant to 40 CFR part 745, subpart Q, and that is given by a training provider accredited by EPA or a State or Indian Tribe for training in lead-based paint inspection or risk assessment, provided a certified risk assessor or a certified lead-based paint inspector approves

the work of the sampling technician and signs the report of the clearance examination; or

(iv) A technician licensed or certified by EPA or a State or Indian Tribe to perform clearance examinations without the approval of a certified risk assessor or certified lead-based paint inspector, provided that a clearance examination by such a licensed or certified technician shall be performed only for a single-family property or individual dwelling units and associated common areas in a multi-unit property, and provided further that a clearance examination by such a licensed or certified sampling technician shall not be performed using random sampling of dwelling units or common areas in multifamily properties, except that a clearance examination performed by such a licensed or certified sampling technician is acceptable for any residential property if the clearance examination is approved and the report signed by a certified risk assessor or a certified lead-based paint inspector.

(2) Required activities.

(i) Clearance examinations shall include a visual assessment, dust sampling, submission of samples for analysis for lead in dust, interpretation of sampling results, and preparation of a report. Soil sampling is not required. Clearance examinations shall be performed in dwelling units, common areas, and exterior areas in accordance with this section and the steps set forth at 40 CFR 745.227(e)(8). If clearance is being performed after lead-based paint hazard reduction, paint stabilization, maintenance, or rehabilitation that affected exterior surfaces but did not disturb interior painted surfaces or involve elimination of an interior dust-lead hazard, interior clearance is not required if window, door, ventilation, and other openings are sealed during the exterior work. If clearance is being performed for more than 10 dwelling units of similar construction and maintenance, as in a multifamily property, random sampling for the purpose of clearance may be conducted in accordance with 40 CFR 745.227(e)(9).

(ii) The visual assessment shall be performed to determine if deteriorated paint surfaces and/or visible amounts of dust, debris, paint chips or other residue are still present. Both exterior and interior painted surfaces shall be examined for the presence of deteriorated paint. If deteriorated paint or visible dust, debris or residue are present in areas subject to dust sampling, they must be eliminated prior to the continuation of the clearance examination, except elimination of deteriorated paint is not required if it has been determined, through paint testing or a lead-based paint inspection, that the deteriorated paint is not lead-based paint. If exterior painted surfaces have been disturbed by the hazard reduction, maintenance or rehabilitation activity,

the visual assessment shall include an assessment of the ground and any outdoor living areas close to the affected exterior painted surfaces. Visible dust or debris in living areas shall be cleaned up and visible paint chips on the ground shall be removed.

(iii) Dust samples shall be wipe samples and shall be taken on floors and, where practicable, interior window sills and window troughs. Dust samples shall be collected and analyzed in accordance with Sec. 35.1315 of this part.

(iv) Clearance reports shall be prepared in accordance with paragraph (c) of this section.

(c) Clearance report. When clearance is required, the designated party shall ensure that a clearance report is prepared that provides documentation of the hazard reduction or maintenance activity as well as the clearance examination. When abatement is performed, the report shall be an abatement report in accordance with 40 CFR 745.227(e)(10). When another hazard reduction or maintenance activity requiring a clearance report is performed, the report shall include the following information:

(1) The address of the residential property and, if only part of a multifamily property is affected, the specific dwelling units and common areas affected.

(2) The following information on the clearance examination:

(i) The date(s) of the clearance examination;

(ii) The name, address, and signature of each person performing the clearance examination, including certification number;

(iii) The results of the visual assessment for the presence of deteriorated paint and visible dust, debris, residue or paint chips;

(iv) The results of the analysis of dust samples, in  $\mu\text{g}/\text{sq. ft.}$ , by location of sample; and

(v) The name and address of each laboratory that conducted the analysis of the dust samples, including the identification number for each such laboratory recognized by EPA under section 405(b) of the Toxic Substances Control Act (15 U.S.C. 2685(b)).

(3) The following information on the hazard reduction or maintenance activity for which clearance was performed:

(i) The start and completion dates of the hazard reduction or maintenance activity;

(ii) The name and address of each firm or organization conducting the hazard reduction or maintenance activity and the name of each supervisor assigned;

(iii) A detailed written description of the hazard reduction or maintenance activity, including the methods used, locations of exterior surfaces, interior rooms, common areas, and/or components where the hazard reduction activity occurred, and any suggested monitoring of encapsulants or enclosures; and

(iv) If soil hazards were reduced, a detailed description of the location(s) of the hazard reduction activity and the method(s) used.

(d) Standards. The clearance standards in Sec. 35.1320(b)(2) shall apply. If test results equal or exceed the standards, the dwelling unit, worksite, or common area represented by the sample fails the clearance examination.

(e) Clearance failure. All surfaces represented by a failed clearance sample shall be recleaned or treated by hazard reduction, and retested, until the applicable clearance level in Sec. 35.1320(b)(2) is met.

(f) Independence. Clearance examinations shall be performed by persons or entities independent of those performing hazard reduction or maintenance activities, unless the designated party uses qualified in-house employees to conduct clearance. An in-house employee shall not conduct both a hazard reduction or maintenance activity and its clearance examination.

(g) Worksite clearance. Clearance of only the worksite is permitted after work covered by Secs. 35.930, 35.1330, 35.1335, or 35.1355, when containment is used to ensure that dust and debris generated by the work is kept within the worksite. Otherwise, clearance must be of the entire dwelling unit, common area, or outbuilding, as applicable. When clearance is of an interior worksite that is not an entire dwelling unit, common area, or outbuilding, dust samples shall be taken for paragraph (b) of this section as follows:

(1) Sample, from each of at least four rooms, hallways, stairwells, or common areas within the dust containment area:

(i) The floor (one sample); and



(ii) Windows (one interior sill sample and one trough sample, if present); and

(2) Sample the floor in a room, hallway, stairwell, or common area connected to the dust containment area, within five feet outside the area (one sample).

Sec. 35.1345 Occupant protection and worksite preparation.

This section establishes procedures for protecting dwelling unit occupants and the environment from contamination from lead-contaminated or lead-containing materials during hazard reduction activities.

(a) Occupant protection.

(1) 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.

(2) 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:

(i) Treatment will not disturb lead-based paint, dust-lead hazards or soil-lead hazards;

(ii) 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;

(iii) Treatment of the interior will be completed within one period of 8-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

(iv) Treatment of the interior will be completed within 5 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.

(3) 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.

(b) Worksite preparation.

(1) 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.

(2) A warning sign shall be posted at each entry to a room where hazard reduction activities are conducted when occupants are present; or 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.

Sec. 35.1350 Safe work practices.

(a) Prohibited methods. Methods of paint removal listed in Sec. 35.140 shall not be used.

(b) Occupant protection and worksite preparation. Occupants and their belongings shall be protected, and the worksite prepared, in accordance with Sec. 35.1345. A person performing this work shall be trained on hazards and either be supervised or have completed successfully one of the specified courses, in accordance with Sec. 35.1330(a)(4).

(c) 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 method of equivalent efficacy, and lead-specific detergents or equivalent.

(d) De minimis levels. Safe work practices are not required when maintenance or hazard reduction activities do not disturb painted surfaces that total more than:

(1) 20 square feet (2 square meters) on exterior surfaces;

(2) 2 square feet (0.2 square meters) in any one interior room or space; or

(3) 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.

Sec. 35.1355 Ongoing lead-based paint maintenance and reevaluation activities.

(a) Maintenance. Maintenance activities shall be conducted in accordance with paragraphs (a)(2)-(6) of this section, except as provided in paragraph (a)(1) of this section.

(1) Maintenance activities need not be conducted in accordance with this section if a lead-based paint inspection indicates that no lead-based paint is present in the dwelling units, common areas, and on exterior surfaces, or a clearance report prepared in accordance with Sec. 35.1340(a) indicates that all lead-based paint has been removed.

(2) A visual assessment for deteriorated paint, bare soil, and the failure of any hazard reduction measures shall be performed at unit turnover and every twelve months.

(3) (i) Deteriorated paint. All deteriorated paint on interior and exterior surfaces located on the residential property shall be stabilized in accordance with Sec. 35.1330(a)(b), except for any paint that an evaluation has found is not lead-based paint.

(ii) Bare soil. All bare soil shall be treated with standard treatments in accordance with Sec. 35.1335(d) through (g), or interim controls in accordance with Sec. 35.1330(a) and (f); except for any bare soil that a current evaluation has found is not a soil-lead hazard.

(4) Safe work practices, in accordance with sec. 35.1350, shall be used when performing any maintenance or renovation work that disturbs paint that may be lead-based paint.

(5) Any encapsulation or enclosure of lead-based paint or lead-based paint hazards which has failed to maintain its effectiveness shall

be repaired, or abatement or interim controls shall be performed in accordance with Secs. 35.1325 or 35.1330, respectively.

(6) Clearance testing of the worksite shall be performed at the conclusion of repair, abatement or interim controls in accordance with Sec. 35.1340.

(7) Each dwelling unit shall be provided with written notice asking occupants to report deteriorated paint and, if applicable, failure of encapsulation or enclosure, along with the name, address and telephone number of the person whom occupants should contact. The language of the notice shall be in accordance with Sec. 35.125(c)(3). The designated party shall respond to such report and stabilize the deteriorated paint or repair the encapsulation or enclosure within 30 days.

(b) Reevaluation. Reevaluation shall be conducted in accordance with this paragraph (b), and the designated party shall conduct interim controls of lead-based paint hazards found in the reevaluation.

(1) Reevaluation shall be conducted if hazard reduction has been conducted to reduce lead-based paint hazards found in a risk assessment or if standard treatments have been conducted, except that reevaluation is not required if any of the following cases are met:

(i) An initial risk assessment found no lead-based paint hazards;

(ii) A lead-based paint inspection found no lead-based paint; or

(iii) All lead-based paint was abated in accordance with Sec. 35.1325, provided that no failures of encapsulations or enclosures have been found during visual assessments conducted in accordance with Sec. 35.1355(a)(2) or during other observations by maintenance and repair workers in accordance with Sec. 35.1355(a)(5) since the encapsulations or enclosures were performed.

(2) Reevaluation shall be conducted to identify:

(i) Deteriorated paint surfaces with known or suspected lead-based paint;

(ii) Deteriorated or failed interim controls of lead-based paint hazards or encapsulation or enclosure treatments;

(iii) Dust-lead hazards; and

(iv) Soil that is newly bare with lead levels equal to or above the standards in Sec. 35.1320(b)(2).

(3) Each reevaluation shall be performed by a certified risk assessor.

(4) Each reevaluation shall be conducted in accordance with the following schedule if a risk assessment or other evaluation has found deteriorated lead-based paint in the residential property, a soil-lead hazard, or a dust-lead hazard on a floor or interior window sill. (Window troughs are not sampled during reevaluation). The first reevaluation shall be conducted no later than two years from completion of hazard reduction. Subsequent reevaluation shall be conducted at intervals of two years, plus or minus 60 days. To be exempt from additional reevaluation, at least two consecutive reevaluations conducted at such two-year intervals must be conducted without finding lead-based paint hazards or a failure of an encapsulation or enclosure. If, however, a reevaluation finds lead-based paint hazards or a failure, at least two more consecutive reevaluations conducted at such two year intervals must be conducted without finding lead-based paint hazards or a failure.

(5) Each reevaluation shall be performed as follows:

(i) Dwelling units and common areas shall be selected and reevaluated in accordance with Sec. 35.1320(b).

(ii) The worksites of previous hazard reduction activities that are similar on the basis of their original lead-based paint hazard and type of treatment shall be grouped. Worksites within such groups shall be selected and reevaluated in accordance with Sec. 35.1320(b).

(6) Each reevaluation shall include reviewing available information, conducting selected visual assessment, recommending responses to hazard reduction omissions or failures, performing selected evaluation of paint, soil and dust, and recommending response to newly-found lead-based paint hazards.

(i) Review of available information. The risk assessor shall review any available past evaluation, hazard reduction and clearance reports, and any other available information describing hazard reduction measures, ongoing maintenance activities, and relevant building operations.

(ii) Visual assessment. The risk assessor shall:

(A) Visually evaluate all lead-based paint hazard reduction treatments, any known or suspected lead-based paint, any

deteriorated paint, and each exterior site, and shall identify any new areas of bare soil;

(B) Determine acceptable options for controlling the hazard; and

(C) Await the correction of any hazard reduction omission or failure and the reduction of any lead-based paint hazard before sampling any dust or soil the risk assessor determines may reasonably be associated with such hazard.

(iii) Reaction to hazard reduction omission or failure. If any hazard reduction control has not been implemented or is failing (e.g., an encapsulant is peeling away from the wall, a paint-stabilized surface is no longer intact, or gravel covering an area of bare soil has worn away), or deteriorated lead-based paint is present, the risk assessor shall:

(A) Determine acceptable options for controlling the hazard; and

(B) Await the correction of any hazard reduction omission or failure and the reduction of any lead-based paint hazard before sampling any dust or soil the risk assessor determines may reasonably be associated with such hazard.

(iv) Selected paint, soil and dust evaluation. (A) The risk assessor shall sample deteriorated paint surfaces identified during the visual assessment and have the samples analyzed, in accordance with 40 CFR 745.227(b)(3)(4), but only if reliable information about lead content is unavailable.

(B) The risk assessor shall evaluate new areas of bare soil identified during the visual assessment. Soil samples shall be collected and analyzed in accordance with 40 CFR 745.227(d)(8)-(11), but only if the soil lead levels have not been previously measured.

(C) The risk assessor shall take selected dust samples and have them analyzed. Dust samples shall be collected and analyzed in accordance with Sec. 35.1320(b). At least two composite samples, one from floors and the other from interior window sills, shall be taken in each dwelling unit and common area selected. Each composite sample shall consist of four individual samples, each collected from a different room or area. If the dwelling unit contains both carpeted and uncarpeted living areas, separate floor samples are required from the carpeted and uncarpeted areas. Equivalent single-surface sampling may be used instead of composite sampling.

(7) The risk assessor shall provide the designated party with a written report documenting the presence or absence of lead-based paint hazards, the current status of any hazard reduction and standard treatment measures used previously and any newly-conducted evaluation and hazard reduction activities. The report shall include the information in 40 CFR 745.227(d)(11), and shall:

(i) Identify any lead-based paint hazards previously detected and discuss the effectiveness of any hazard reduction or standard treatment measures used, and list those for which no measures have been used.

(ii) Describe any new hazards found and present the owner with acceptable control options and their accompanying reevaluation schedules.

(iii) Identify when the next reevaluation, if any, must occur, in accordance with the requirements of paragraph (b)(4) of this section.

(c) Response to the reevaluation.

(1) Hazard reduction omission or failure found by a reevaluation. The designated party shall respond in accordance with paragraph (b)(6)(iii)(A) of this section to a report by the risk assessor of a hazard reduction control that has not been implemented or is failing, or that deteriorated lead-based paint is present.

(2) Newly-identified lead-based paint hazard found by a reevaluation. The designated party shall treat each:

(i) Dust-lead hazard or paint lead hazard by cleaning or hazard reduction measures, which are considered completed when clearance is achieved in accordance with Sec. 35.1340.

(ii) Soil-lead hazard by hazard reduction measures, which are considered completed when clearance is achieved in accordance with Sec. 35.1340.