

**DEPARTMENT OF HOUSING
AND URBAN DEVELOPMENT**

**RESEARCH TO IMPROVE THE
EVALUATION AND CONTROL
OF RESIDENTIAL
LEAD-BASED PAINT HAZARDS**

NOTICE OF FUNDING AVAILABILITY FOR RESEARCH TO IMPROVE THE EVALUATION AND CONTROL OF RESIDENTIAL LEAD-BASED PAINT HAZARDS (LEAD HAZARD CONTROL RESEARCH)

Program Overview

Purpose of the Program. To fund research to improve methods for detecting and controlling residential lead-based paint hazards.

Available Funds. Approximately \$1.5 million.

Eligible Applicants. Academic and not-for-profit institutions located in the U.S., and State and local governments. For-profit firms also are eligible; however, they are not allowed to earn a fee.

Application Deadline. **May 17, 2000.**

Match. None required.

Additional Information

If you are interested in applying for funding under this program, please review carefully the **General Section** of this SuperNOFA and the following additional information.

I. Application Due Date, Application Kits, Further Information, and Technical Assistance

Application Due Date. Submit an original and four copies of your completed application on or before 12:00 midnight, Eastern time, on May 17, 2000, at the address shown below.

See the **General Section** of this SuperNOFA for specific procedures that you must follow for the form of application submission (e.g., mailed applications, express mail, overnight delivery, or hand carried).

Address for Submitting Applications.

For Mailed Applications. The address for mailed applications is: Department of Housing and Urban Development, Office of Lead Hazard Control, 451 Seventh Street, SW, Room P3206, Washington, DC 20410.

For Overnight/Express Mail or Hand Carried Applications. The address for applications that are hand carried or sent via overnight/express mail delivery is: HUD Office of Lead Hazard Control, Suite 3206, 490 East L'Enfant Plaza, SW, Washington, DC 20024. Hand carried applications will be accepted at this address (490 East L'Enfant) up until 5:00 pm on the application due date.

After 5:00 pm on the application due date, hand carried applications will be accepted until 12:00 midnight, in the South Lobby of HUD Headquarters, 451 Seventh Street, SW, Washington, DC 20410.

For Application Kits. You may obtain an application kit from the SuperNOFA

Information Center at 1-800-HUD-8929. Persons with speech or hearing impairments may call the Center's TTY number at 1-800-HUD-2209. When requesting an application kit, please refer to the Lead Hazard Control Research grant program. Please be sure to provide your name, address (including zip code), and telephone number (including area code).

For Further Information and Technical Assistance. You may contact: Mr. Eugene Pinzer, Office of Lead Hazard Control, at the address above; telephone (202) 755-1785, extension 120 (this is not toll-free numbers). Hearing- and speech-impaired persons may access the above telephone number via TTY by calling the toll-free Federal Information Relay Service at 1-800-877-8339.

Satellite Broadcast. HUD will hold an information broadcast via satellite for potential applicants to learn more about the program and preparation of the application. For more information about the date and time of the broadcast, you should consult the HUD web site at <http://www.hud.gov>.

II. Amount Allocated

Approximately \$1.5 million will be available to fund research proposals in FY 2000. Grants or cooperative agreements will be awarded on a competitive basis according to the Rating Factors described in Section V(B). HUD anticipates awarding three to five grants ranging from approximately \$200,000 to approximately \$600,000.

III. Program Description; Eligible Applicants; Eligible Activities

(A) *Program Description. Background.* HUD has been actively engaged in a number of activities relating to lead-based paint as a result of the Lead-Based Paint Poisoning Prevention Act (LBPPPA) of 1971, as amended, 42 U.S.C. 4801-4846. Sections 1051 and 1052 of the Lead Based Paint Hazard Reduction Act of 1992 ("Title X") (42 U.S.C. 4854 and 4854a) state that the Secretary of HUD, in cooperation with other Federal agencies, shall conduct research on specific topics related to the evaluation and subsequent mitigation of residential lead hazards. This research program also implements, in part, HUD's Departmental Strategy for Achieving Environmental Justice pursuant to Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations).

The HUD-sponsored research also responds to recommendations that were made by the Task Force on Lead-Based

Paint Hazard Reduction and Financing, which was established pursuant to section 1015 of Title X. The Task Force presented its final report to HUD and the Environmental Protection Agency (EPA) in July 1995. The Task Force Report, entitled "Putting the Pieces Together: Controlling Lead Hazards in the Nation's Housing" (see Appendix A of this research program section of the SuperNOFA), recommended research be conducted on a number of key topics to address significant gaps in our knowledge of lead exposure and hazard control.

Research findings will be used in part to update HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("Guidelines"), which were published in June, 1995 and amended in September, 1997. The Guidelines are a report on state-of-the-art procedures for all aspects of lead-based paint hazard evaluation and control. The Guidelines reflect the Title X framework for lead hazard control, which distinguishes three types of control measures: interim controls, abatement of lead-based paint hazards, and complete abatement of all lead-based paint. Interim controls are designed to address hazards quickly, inexpensively, and temporarily, while abatement is intended to produce a permanent solution. While the *Guidelines* recommend procedures that are effective in identifying and controlling lead hazards while protecting the health of abatement workers and occupants, HUD recognizes that targeted research and field experience will result in future changes to the *Guidelines*. For availability of the *Guidelines*, see Appendix A of this research program section of the SuperNOFA.

(B) *Eligible Applicants.* Academic and not-for-profit institutions located in the U.S., and State and local governments are eligible under all existing authorizations. For-profit firms also are eligible; however, they are not allowed to earn a fee (i.e., no profit can be made from the project). Federal agencies and Federal employees are not eligible to submit applications. The **General Section** of the SuperNOFA provides additional eligibility requirements.

(C) *Eligible Activities. (1) General Goals and Objectives.* The overall goal of this research is to gain knowledge to improve the efficacy and cost-effectiveness of methods for lead-based paint hazard evaluation and control. A table of current lead-related research projects being funded by HUD can be found in Appendix B. HUD is interested in the following research topics:

(a) Evaluation of Lead Hazard Control Methodologies;

—Contribution of Exterior Lead Sources to Lead in Interior Dust;

(b) Low-Cost Analytical Techniques for the Rapid, On-Site Determination of Lead in Dust;

(c) New or Novel Methods of LBP Hazard Evaluation or Control, or other areas of research that are consistent with the overall goals of this research program section of the SuperNOFA.

Research objectives for the research topics listed above are provided separately in the expanded discussion of these topic areas that follows in Section III(C)(2). Although HUD is soliciting proposals for research on these specific topics, the Department will also consider funding applications for research on topics which are relevant under the overall goals and objectives of this research, as described above. In such instances, the applicant should describe how the proposed research activity addresses these overall goals and objectives.

(2) *Background and Objectives for Specific Research Topic Areas.*

(a) *Evaluation of Lead Hazard Control Methodologies.*

(i) *Contributions of Exterior Lead Sources to Lead in Interior Dust.* There is general consensus that lead in interior house dust is the primary pathway of lead exposure for young children. In order to reduce the amount of lead in interior dust, all significant lead sources must be identified and remediated. Various methods have been used to identify the major sources and pathways of lead in house dust, including epidemiological studies and direct tracing of lead from potential sources based on unique physical/chemical characteristics of the lead from each source. Most of the epidemiological studies that have examined this question have concluded that lead-based paint appeared to be the major contributor of lead in interior dust (e.g., Bornschein *et al.*, 1990; Stark *et al.*, 1982; Schwartz and Levin, 1991; Greene *et al.* 1992). Lead tracer studies have most commonly measured particle morphology, accompanying elements, or lead isotopic composition. These studies have been limited; several have identified lead-based paint as the primary contributor to lead particulate (Hunt *et al.*, 1992; Yaffe, *et al.*, 1983). The feasibility of using tracer methods has improved as more cost-effective technologies have been developed. For example, lead isotope ratios can now be measured with acceptable accuracy and precision by inductively coupled plasma mass spectrometry, as opposed

to the more laborious thermal ionization method (Gwiazda, *et al.*, 1998; Woolard, *et al.*, 1998).

The extent to which lead in exterior dust and soil can contribute to the lead content of interior dust has not been quantified. There may be a seasonal fluctuation in dust-lead loading on interior surfaces, especially floors (USEPA 1995; National Center for Lead Safe Housing, 1997). In temperate climates, seasonal variations in interior dust-lead levels may be related to greater opportunity for exterior lead dust to be blown or tracked into homes in warmer seasons (e.g., open windows, more frequent in-and-out foot traffic). The magnitude of the contribution of exterior lead sources to lead in interior dust may be related to: exterior lead-based paint, climate, soil type, soil-lead concentration, extent of ground cover, housing characteristics, and the behavior of occupants.

Applicants proposing research in this topic area should consider the efficiencies that might be gained by working cooperatively with some of the recipients of HUD lead hazard control grants, who are widely distributed throughout the U.S.

(ii) *Goals and Objectives.* HUD's specific goals and objectives for this area of research include:

- Estimate the relative contribution of exterior lead sources to lead dust on interior surfaces, identifying any seasonal changes in this pattern.
- Identify geographic differences in the contribution of exterior lead sources to interior dust-lead and any seasonal changes in this contribution.
- Evaluate methods to reduce the migration of lead from exterior sources into the home.
- Identify factors that are predictive of the lead content of exterior dust and soil and the fraction of exterior-derived lead in interior dust.

(b) *Low-Cost Analytical Techniques for the Rapid Field Determination of Lead in Dust.* Develop an inexpensive and easy to use technique to determine the lead level in house dust, with particular applicability to the range of risk assessment and clearance (40–800 $\mu\text{g}/\text{ft}^2$) for HUD-associated projects. *Inexpensive* means under approximately \$1000–1500, with each analysis, including pro rata costs of consumables, blanks, standards, etc., under \$10–20. Consideration will also be given if it can be shown that amortized cost of the equipment is low or that average cost per analysis is low assuming a few hundred analyses per year. *Easy to use* means requiring one person with a high school degree to operate, and requiring under 8 hours operator's training to

meet the performance criteria cited below. *Rapid* means that results could be available in 15 minutes to a few hours, or that a number of samples could be processed simultaneously so that results are available in a few hours. Optionally, address how the same device (with adapters, if needed) could be used to determine lead in paint (with respect to 1 mg/cm^2 or 0.5% by weight), lead dust in air (with respect to 30–50 $\mu\text{g}/\text{m}^3$), after collection on a membrane filter, and/or the lead content of soil (with respect to 200–2000 ppm). Performance criteria for the device will include $\pm 20\%$ precision at 95% confidence for measurements from 0.5 to 2.0 times the levels of interest cited above. Establish and validate any necessary procedures, such as extraction and/or digestion, that would work well with the field device/procedure. Examine old technology (e.g., colorimetric tests, titrimetric procedures) as well as newer techniques.

Consider the safety and environmental impacts of the procedure, particularly as used in the field. Comparatively recent developments have introduced for consideration the use of a field-portable anodic stripping voltammetry (ASV) device for the determination of lead in paint, lead dust on wipes, or lead in air (after collection on a membrane filter). Similarly, portable field x-ray fluorescence spectrometers (XRF) have been used to determine lead dust on dust wipes or the lead content of soil using a special holder. Neither of these techniques has yet been widely accepted or used in the field by practicing risk assessors. Of course, XRF is the most common method for inspectors to determine the presence of lead-based paint (LBP). There remains a need to introduce and develop a relatively low-cost, precise, accurate, and rapid technique to determine the level of lead dust on a dust wipe, particularly as a clearance determination where otherwise a contractor and crew may have to wait a day or more for a clearance determination to be reported by a laboratory. Such a method for determining lead content on a dust wipe could also serve as a good "screening" tool after LBP abatement or other lead hazard control activities to determine if sufficient cleaning has been performed prior to proceeding to full clearance determinations using dust wipes and laboratory analyses.

We invite the consideration and evaluation of all other techniques, including classical analytical techniques, that may become a low-cost,

accurate, precise and rapid method for the determination of lead in the field. The new or novel application may equally apply to the determination of lead in paint, lead in air, or lead in soil, but these additional uses are not as important. Please refer to some of the references in Appendix A for discussion of ASV, colorimetric tests, and reflectometer tests.

(c) *New or Novel Methods of LBP Hazard Evaluation or Control, or Other Areas of Research that are Consistent with the Overall Goals of this Research Program Section of the SuperNOFA.*

You may address one or more of the research topic areas within your proposal, or submit separate applications for different topic areas. Projects need not address all of the objectives within a given topic area.

(i) Identify and evaluate new methods and/or techniques for LBP hazard control. Identify materials and/or procedures that may be used for abatement or for interim controls. Show the potential utility of these methods for lead hazard control and risk reduction. Evaluate critical elements and potential weaknesses of the methods or techniques, and address how to minimize the effect of each critical element and/or eliminate or mitigate each weakness. Demonstrate where and how these methods have been applied and tested, and/or perform demonstration activities. Illustrate the results obtained, and the costs involved. Recommend cost-effective changes to the Program for inclusion in future HUD lead hazard control grants, and for possible inclusion in future revisions to the Guidelines.

(ii) Evaluate the different programs used by the communities receiving HUD lead hazard control grants and determine which activities produce the greatest number of low-income child-years in treated units.

HUD believes there is a need to expand the possible alternatives to consider when evaluating or addressing the reduction of LBP hazards. Novel techniques and new ideas are hereby solicited to be used in a nationwide program to reduce childhood lead poisoning through the reduction and control of LBP hazards. Such techniques may include one or more of the following:

- Novel techniques or materials for paint film stabilization; as defined in the HUD regulation published Sept. 15, 1999, *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.

- Reduction of bio-availability of lead in dust;
- An approach to reduce the formation of leaded dust from friction surfaces;
- Any other technique that may be used to reduce LBP hazards.

Additional ideas will be considered with an open mind toward novel techniques and applications.

Although HUD is soliciting proposals for research on some specific topics, the Department will also consider funding applications for research on topics which are relevant under the overall goals and objectives of this research NOFA, as described above. In such instances, the applicant should describe how the proposed research activity addresses these overall goals and objectives.

IV. Program Requirements.

(A) *Applicable Requirements.* Please refer to Section II of the **General Section** of the SuperNOFA, Requirements and Procedures Applicable to All Programs. The threshold requirements are listed in Section II.B of the **General Section** of this SuperNOFA.

(B) *Certifications and Assurances.* In addition to the certifications mentioned in the Section II(G) of the **General Section** of the SuperNOFA, you must comply with the following:

- (1) All relevant State and Federal regulations regarding exposure to and proper disposal of hazardous materials.
- (2) Any blood lead testing, blood lead level test results, and medical referral and follow-up for children under six years of age will be conducted according to the recommendations of the Centers for Disease Control and Prevention (CDC) (*Preventing Lead Poisoning in Young Children*, See Appendix A of this research program section of the SuperNOFA);
- (3) HUD research grant funds will not replace existing resources dedicated to any ongoing project; and
- (4) Laboratory analysis covered by the National Lead Laboratory Accreditation Program (NLLAP) is conducted by a laboratory recognized under the program.
- (5) Human research subjects will be protected from research risks in conformance with Federal Policy for the Protection of Human Subjects, codified by HUD at 24 CFR part 60.

V. Application Selection Process

(A) *Submitting Applications for Grants.* Applications that meet all of the threshold requirements will be eligible to be scored and ranked, based on the

total number of points allocated for each of the rating factors described below in Section V(B) of this program section of the SuperNOFA. Your application must receive a total score of at least 65 points to remain in consideration for funding.

Awards will be made in rank order, within the limits of funding availability.

You may address more than one of the research topic areas within your proposal, or submit separate applications for different topic areas. Projects need not address all of the objectives within a given topic area. While you will not be penalized for not addressing all of the specific objectives for a given topic area, if two applications for research in a given topic have equal scores, HUD will select the applicant whose project addresses the most objectives.

You are encouraged to plan projects that can be completed over a short time period (e.g., 12 to 24 months from the date of award) so useful information generated from the research can be available for policy or program decisions and disseminated to the public as quickly as possible.

Regarding the amount to be awarded to the selected applicants, please refer to the Negotiations section in the **General Section** of this SuperNOFA.

(1) *Use of Residual Funds.* In the selection process, HUD reserves the right to offer partial funding to any or all applicants. If you are offered a reduced grant amount, you will have a maximum of seven (7) calendar days to accept such a reduced award. If you fail to respond within the seven day limit, you shall be considered to have declined the award.

(2) *Set-Aside for Previously Unfunded Applicants.* Existing HUD lead hazard research grantees, previously funded grantees, or previously unfunded applicants are eligible to apply for grants. At least 20% of the funds under this research program section of the SuperNOFA will be made available to applicants who are not current (or previous) Lead Hazard Control Research grantees, provided that no application shall be funded that receives lower than the minimum score listed in Section V(A) of this program section above. Applications from existing (or previous) grantees will be evaluated and scored as a separate group and will not be in direct competition with applications from previously unfunded applicants.

(B) *Rating Factors.* The factors for rating and ranking applicants, and maximum points for each factor, are provided below. The maximum number of points to be awarded is 100. The EZ/EC bonus points described in the

General Section of the SuperNOFA do not apply to this Research NOFA.

Rating Factor 1: Capacity of the Applicant and Relevant Organizational Experience (20 Points)

This factor addresses the extent to which you have the ability and organizational resources necessary to successfully implement your proposed activities in a timely manner. The rating of you, the "applicant," will include any sub-grantees, consultants, sub-recipients, and members of consortia that are firmly committed to the project (generally, "subordinate organizations"). In rating this factor HUD will consider the extent to which your application demonstrates:

(1) *The capability and qualifications of the principal investigator and key personnel (10 points)*. Qualifications to carry out the proposed study as evidenced by academic background, relevant publications, and recent (within the past 10 years) relevant research experience. Publications and research experience are considered relevant if they required the acquisition and use of knowledge and skills that can be applied in the planning and execution of the research that is proposed under this program section of this SuperNOFA.

(2) *Past performance of the research team in managing similar research (10 points)*. Demonstrated ability to successfully manage various aspects of a complex research study in such areas as logistics, research personnel management, data management, quality control, community research involvement (if applicable), and report writing, as well as overall success in project completion (*i.e.*, research completed on time and within budget). You should also demonstrate that your project would have adequate administrative support, including clerical and specialized support in areas such as accounting and equipment maintenance.

Rating Factor 2: Need/Extent of the Problem (15 Points)

(1) You must demonstrate responsiveness to solicitation objectives. You should explain in detail how your research would make a significant contribution towards achieving some or all of HUD's stated goals and objectives for one or more of the topic areas described in Sections III(C)(2)(a)-(c) of this program section of the SuperNOFA. You also should explain how your proposed research could lead to improvements or additions to the HUD Guidelines.

(2) If you are seeking funding for "other" research, as is described in section III(C)(2)(c), you must provide an explanation which demonstrates the importance and need for the research with respect to addressing the overall goal of this research program.

Rating Factor 3: Soundness of Approach (45 Points)

This factor addresses the quality of your proposed research plan. Specific components include the following:

Soundness of the study design (25 points). The project description/study design must be thorough and feasible, and reflect your knowledge of the relevant scientific literature. You should include a plan for analyzing and archiving data. You should approach your study design as a project with a goal, some activities with associated tasks, a time frame, and an associated cost.

Quality assurance mechanisms (8 points). You must describe the quality assurance mechanisms which will be integrated into your research design to ensure the validity and quality of the results. Areas to be addressed include acceptance criteria for data quality, procedures for selection of samples/sample sites, sample handling, measurement and analysis, and any standard/nonstandard quality assurance/control procedures to be followed. Documents (*e.g.*, government reports, peer-reviewed academic literature) which provide the basis for your quality assurance mechanisms should be cited.

(2) *Project management plan (10 points)*. The proposal should include a management plan that provides a schedule for the completion of major activities, tasks and deliverables, with an indication that there will be adequate resources (*e.g.*, personnel, financial) to successfully meet the proposed schedule. Projects with a duration of 24 months or less will be awarded more points in this category than projects with a longer duration.

(3) *Budget Proposal (2 Points)*. Your budget proposal should thoroughly estimate all applicable direct and indirect costs, and be presented in a clear and coherent format in accordance with the requirements listed in the **General Section** of this SuperNOFA. Your budget should be submitted in the format recommended; an electronic spreadsheet is available on HUD's website, www.hud.gov/lea. Your budget proposal should be activity and task related.

Rating Factor 4: Leveraging Resources (10 Points)

Your proposal should demonstrate that the effectiveness of the HUD research grant funds are being increased by securing other public and/or private resources or by structuring the research in a cost-effective manner, such as integrating the project into an existing research effort. Resources may include funding or in-kind contributions (such as services, facilities or equipment) allocated to the purpose(s) of your research. Staff and in-kind contributions should be given a monetary value.

You should provide evidence of leveraging/partnerships by attaching to your application the following: letters of firm commitment, memoranda of understanding, or agreements to participate from those entities identified as partners in the research efforts. Each letter of commitment, memorandum of understanding, or agreement to participate should include the organization's name, proposed level of commitment (with monetary value) and responsibilities as they relate to specific activities or tasks of your proposed program. The commitment must also be signed by an official of the organization legally able to make commitments on behalf of the organization.

Rating Factor 5: Comprehensiveness and Coordination (10 Points)

You should describe how the results of your proposed research efforts will support planning, policy development, implementation of lead hazard control programs, and/or public education in the area of residential lead hazard control or in accordance with the goals and operations of the Partnership for Advancing Technology in Housing (PATH) (refer to Section VI(E) of the **General Section** of the SuperNOFA). If your application involves a particular community, it should relate to the community's Consolidated Plan and Analysis Impediments to Fair Housing Choice. In addition, you should also address the extent to which your research could be used to expand fair housing choice and to affirmatively further fair housing.

VI. Application Submission Requirements

(A) *Applicant Data*. Your application must contain the items listed in this Section V(B). These items include the standard forms, certifications, and assurances listed in the **General Section** of the SuperNOFA that are applicable to this funding (collectively, referred to as the "standard forms"). The standard forms can be found in Appendix B to

the **General Section** of the SuperNOFA. The remaining application items that are forms (*i.e.*, excluding such items as narratives), referred to as the non-standard forms can be found as Appendix C to this program section of the SuperNOFA: The items are as follows:

(1) Transmittal Letter that identifies what the research program funds are requested for, the dollar amount requested, and the applicant or applicants submitting the application. If two or more organizations are working together on the research, a primary applicant must be designated.

(2) Checklist and Submission Table of Contents (see Appendix C).

(3) The name, mailing address, telephone number, and principal contact person of the prime applicant. If you have consortium associates, sub-grantees, partners, major subcontractors, joint venture participants, or others contributing resources to your project, similar information must be provided for each of these entities.

(4) Completed Forms HUD-2880, Applicant/Recipient Disclosure/Update Report; Certification Regarding Lobbying; and/or SF-LLL, Disclosure of Lobbying Activities, where applicable.

(5) Completed Standard Forms SF-424, 424A, 424B, and other certifications and assurances listed in the **General Section** of the SuperNOFA and in Section VII(B) of this program section of the SuperNOFA.

(6) A detailed total budget with supporting cost justification for all budget categories of the Federal grant request. Use the budget format discussed in Section V(B)3(3), above. (See Appendix C.)

(7) A two-page (maximum) abstract containing the following information: The project title, the names and affiliations of all investigators, and a summary of the objectives, expected results, and study design described in the proposal.

(8) A project description/narrative statement addressing the rating factors for award of funding under this program section of the SuperNOFA. The narrative statement must be numbered in accordance with each factor for award (Rating Factors 1 through 5). The response to the rating factors should not exceed a total of 25 pages for each research topic area.

(9) Any important attachments, appendices, references, or other relevant information may accompany the project description, but must not exceed twenty (20) pages for the entire application.

(10) The resumes of the principal investigator and other key personnel. Resumes shall not exceed three pages

each, and are limited to information that is relevant in assessing the qualifications of key personnel to conduct and/or manage the proposed research.

(11) Copy of State Clearing House Approval Notification (see application kit to determine if applicable).

VII. Corrections to Deficient Applications

The **General Section** of the SuperNOFA provides the procedures for corrections to deficient applications.

VIII. Environmental Requirements

In accordance with 24 CFR 50.19(b)(1) and (5) of the HUD regulations, activities assisted under this program are categorically excluded from the requirements of the National Environmental Policy Act of 1969 (42 U.S.C. 4321) and are not subject to environmental review under the related laws and authorities.

IX. Authority

These grants are authorized under sections 1051 and 1052 of the Residential Lead-Based Paint Hazard Reduction Act of 1992, which is Title X of the Housing and Community Development Act of 1992.

Appendix A—Relevant Publications and Guidelines

To secure any of the documents listed, call the listed telephone number (generally, the telephone numbers are not toll-free).

Regulations

1. Worker Protection: OSHA publication—Telephone: 202-693-1888 (OSHA Regulations) (available for a charge)—Government Printing Office—Telephone: 202-512-1800 (not a toll-free number):

—General Industry Lead Standard, 29 CFR 1910.1025 (Document Number 869022001124). Can be downloaded from the Internet without charge from www.osha-slc.gov/OshStd_data/1910_1025.html.

—Lead Exposure in Construction, 29 CFR 1926.62, and appendices A, B, C, and D (Document Number 869022001141). Can be downloaded from the Internet without charge from www.osha-slc.gov/OshStd_data/1926_0062.html.

2. Waste Disposal: 40 CFR parts 260-268 (EPA regulations) (available for a charge)—Telephone 1-800-424-9346, or, from the Washington, DC, metropolitan area, 1-703-412-9810 (not a toll-free number). Can be downloaded from the Internet without charge from www.epa.gov/docs/epacr40/chapt-I.info/subch-I/.

3. Lead; Requirements for Lead-Based Paint Activities in Target Housing and Child-Occupied Facilities; Final Rule: 40 CFR part 745, subparts L and Q (EPA) (State Certification and Accreditation Program for those engaged in lead-based paint activities)—Telephone: 1-202-554-1404

(Toxic Substances Control Act Hotline) (not a toll-free number). Can be downloaded from the Internet without a charge from www.epa.gov/opptintr/lead/index.html.

4. Requirements for Notification, Evaluation and Reduction of Lead-Based Paint Hazards in Federally Owned Residential Property and Housing Receiving Federal Assistance; Final Rule: 24 CFR part 35, subparts A through R, published September 15, 1999, at **Federal Register** pages 50201 through 50231 (HUD)—Telephone: 1-800-424-LEAD (National Lead Information Center). Can be downloaded from the Internet without a charge from www.hud.gov/lea/leadwnlo.html or www.epa.gov/lead/leadbase.htm.

5. U.S. Environmental Protection Agency. Lead; Identification of Dangerous Levels of Lead; Proposed Rule. **Federal Register**: 63 FR 30302-30355, June 3, 1998. TSCA Hotline: 202-554-1404 (not a toll-free number). Can be downloaded from the Internet without a charge from www.epa.gov/lead/leadhaz.htm.

Guidelines

1. Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing; HUD, June 1995, and amended September, 1997. (available for a charge)—Telephone: 800-245-2691. Can be downloaded from the Internet without a charge from www.hud.gov/lea/leadwnlo.html.

2. Preventing Lead Poisoning in Young Children; Centers for Disease Control, October 1991; Telephone: 888-232-6789.

3. Screening Young Children for Lead Poisoning; Guidance for State and Local Public Health Officials, November 1997; Centers for Disease Control and Prevention (CDC); Telephone: 888-232-6789. Can be downloaded from the Internet without a charge from www.hud.gov/lea/leadwnlo.html.

Reports and Articles

1. Putting the Pieces Together: Controlling Lead Hazards in the Nation's Housing. (Summary and Full Report); HUD, July 1995 (available for a charge)—Telephone 800-245-2691. Can be downloaded from the Internet without a charge from www.hud.gov/lea/leadwnlo.html.

2. Comprehensive and Workable Plan for the Abatement of Lead-Based Paint in Privately Owned Housing; Report to Congress; HUD, December 7, 1990 (available for a charge)—Telephone 800-245-2691.

3. A Field Test of Lead-Based Paint Testing Technologies; Summary Report (Summary also available); U.S. Environmental Protection Agency, May 1995. EPA 747-R-95-002a (available at no charge)—Telephone 800-424-5323. Can be downloaded from the Internet without a charge from www.epa.gov/lead/summary.txt.

4. Urban Soil Lead Abatement Demonstration Project. EPA Integrated Report, U.S. Environmental Protection Agency, April, 1996. EPA/600/P-93-001aF (available from National Technical Information Service (NTIS) for a charge)—Telephone 800-553-6847. An abstract and additional ordering information can be downloaded from the Internet without a

charge from www.epa.gov/nceawww1/lead.htm.

5. Luk, K.K., Grohse, P.M., Hodson, L.L., Binstock, D.A., Van Hise, C.C., and Gutknecht, W.F., "Standard Operating Procedures for the Field Analysis of Lead in Paint, Bulk Dust, and Soil by Ultrasonic, Acid Digestion and Colorimetric Measurement," EPA 600/R-93/200, U.S. Environmental Protection Agency, Research Triangle Park, NC, 1993. Available from the NTIS (NTIS #PB94-121738).

6. Williams, E.E., Van Hise, C.C., and Gutknecht, W.F., "Evaluation of the Performance of Reflectance and Electrochemical Technologies for the Measurement of Lead in Characterized Paints, Bulk Dusts, and Soils," EPA 600/R-95/093, U.S. Environmental Protection Agency, Research Triangle Park, NC, 1996. Available from the NTIS (NTIS #PB97-126437).

7. Grohse, P.M., Van Hise, C.C., Wilson, B.M., Luk, K.K., Binstock, D.A., and Gutknecht, W.F., "Standard Operating Procedure for the Field Analysis of Lead in Dust Collected by Vacuum and on Wipes by Ultrasonic, Acid Digestion, and Colorimetric Measurement," EPA 600/R-95/151, U.S. Environmental Protection Agency, Research Triangle Park, NC, 1998. Available from the NTIS (NTIS #PB98-140734).

8. Roberts, J.W., Crutcher, E.R., 3rd, Crutcher, E.R. 4th, Glass, G., and Spittler, T.M., "Quantitative Analysis of Road and Carpet Dust on Shoes," in Measurement of Toxic and Related Pollutants, Air & Waste Management Association, Pittsburgh, PA, (1996). pp. 829-835.

9. Roberts, J.W., Clifford, W.S., Glass, G., and Hummer, P.G., "Reducing Dust, Lead, Dust Mites, Bacteria, and Fungi in Carpets by Vacuuming", Arch Environ. Contam. Toxicol., 36, 477-484 (1999).

10. Ashley, K., "Ultrasonic Extraction and Field-Portable Anodic Stripping Voltammetry of Lead from Environmental Samples," *Electroanalysis*, 7, No. 12, 1995, p 1189.

11. Bornschein, R., Clark, S., Pan, W., and Succop, P. (1990) Midvale Community Lead Study. University of Cincinnati Medical Center Final Report.

12. Greene, T., Ernhart, C., and Boyd, T. (1992) "Contributions of Risk Factors to Elevated Blood and Dentine Lead in Preschool Children." *Science of the Total Environment*. 115(3):249-260.

13. Hunt, A., Johnson D.L., Watt, J.M., and Thornton, I. (1992) Characterizing the Sources of Particulate Lead in House Dust by Automated Scanning Electron Microscopy. *Environmental Science and Technology*. 26(8):1513-1522.

14. National Center for Lead-Safe Housing and University of Cincinnati Department of Environmental Health. (1997) Evaluation of the HUD Lead-Based Paint Hazard Control Grant Program: Fifth Interim Report. Washington, DC: U.S. Department of Housing and Urban Development.

15. Schwartz, J., and Levin, R. (1991) "The Risk of Lead Toxicity in Homes with Lead Paint Hazards." *Environmental Research*. 54(1):1-7.

16. Stark, A., Quah, R., Meigs, J., and Delouise, E. (1982) "The Relationship of Environmental Lead to Blood-Lead Levels in Children." *Environmental Research*. 27:372-383.

17. U.S. EPA. (1995) Seasonal Rhythms of Blood-Lead Levels: Boston, 1979-1983. EPA747-R94-003. Washington, DC: U.S. Environmental Protection Agency.

18. Yaffee, Y., C.P. Flessel, J.J. Wesolowski, A. Del Rosario, G.N. Guirguis, V. Matias, T.E. Degarmo and G.C. Coleman. 1983. Identification of lead sources in California

children using the stable isotope ratio technique. Arch. Env. Health. 38(4): 237-245.

19. Gwiazda, R., Woolard, D., and Smith, D. Improved lead isotope ratio measurements in environmental and biological samples with a double focussing magnetic sector inductively coupled plasma mass spectrometer (ICP-MS), J. Anal. At. Spect., 13:1233-1238, 1998.

20. Woolard D., Franks R., Smith D. An inductively coupled plasma-magnetic sector mass spectrometry method for stable lead isotope traces studies. J. Anal. At. Spectrom 13:1015-1019 (1998).

21. K. Ashley, K.J. Mapp and M. Millson, "Ultrasonic Extraction and Field-Portable Anodic Stripping Voltammetry for the Determination of Lead in Workplace Air Samples"; Am. Ind. Hyg. Assoc. J. 59: 671-679 (1998).

22. K. Ashley, R. Song, C.A. Esche, P.C. Schlecht, P.A. Baron, and T.J. Wise, "Ultrasonic Extraction and Portable Anodic Stripping Voltammetric Measurement of Lead in Paint, Dust Wipes, Soil, and Air: An Interlaboratory Evaluation"; J. Environ. Monit., in press (1999).

23. K. Ashley, "On-Site Extraction and Anodic Stripping Voltammetric Determination of Lead"; Appl. Occup. Environ. Hyg. 13: 94-98 (1998). ASTM PS 87, "Provisional Standard Practice for Ultrasonic Extraction of Paint, Dust, Soil, and Air Samples for Subsequent Determination of Lead"; in Annual Book of ASTM Standards, Vol. 04.11. ASTM: West Conshohocken, PA (1998).

24. ASTM PS 88, "Provisional Standard Practice for Determination of Lead in Paint, Settled Dust, Soil, and Air Particulate by Field-Portable Electroanalysis"; in Annual Book of ASTM Standards, Vol. 04.11. ASTM: West Conshohocken, PA (1998).

BILLING CODE 4210-32-P

APPENDIX B -- Lead-Related Research; Current Projects as of September, 1999

Department of Housing and Urban Development (HUD)

Research on Lead Measurement and Sampling Methods

No.	Title	Description
1	Spot-Test Kit (STK) Performance Evaluation	Develop standard protocol for evaluating performance of commercially available STKs. Eight kits, including both sodium sulfide- and rhodizonate-based kits, will be evaluated using this protocol.
2	Development and Validation of XRF Performance Measurement Protocol	Protocol will allow independent 3 rd party performance testing of XRF paint analyzers and replace current system of testing a specific archived set of lead painted architectural components.
3	XRF Fast Mode Evaluation Protocol	Development of a method to assess and report on the performance of portable XRF paint analyzers in "fast mode".
4	Analysis of Dust Wipes Using Portable XRF Analyzers	The objective is to develop a standard methodology to assess the performance of portable XRF analyzers in measuring lead in dust wipes.
5	Sampling Lead Dust in Carpets and Upholstery	To compare the performance of 5 different methods (handwash, vacuum, wipe, adhesive label, and a "membrane" sampler) of sampling dust-lead from carpets and upholstery in homes of lead poisoned children.
6	Composite Sampling Study	Side-by-side single and composite dust lead wipe samples will be collected during clearance and risk assessment sampling at multiple study sites.
7	Enhancing the Sensitivity and Precision of Dust-Wipe Lead Samples by Increasing the Area of Sample Collection	A lab phase will assess the performance of thick and thin wipe materials. A field phase will assess the use of dust samples of two square feet vs. one square foot to improve method sensitivity.
8	Use of Portable Lead Analyzers to Reduce Clearance Dust Wipe Failure Rates	The feasibility of using field portable lead analysis methods to screen clearance dust wipe samples will be assessed in the field.
9	Develop a Method to Measure Residential Soil-Lead Using a Portable XRF Analyzer	Existing methods and protocol will be adapted to develop a method for analyzing residential soil for lead using a portable XRF Analyzer.

Research on Lead Hazard Assessment Methods

10	Risk Assessment Method Validation Field Study	A 3-site field study to assess the predictive power of the HUD/EPA risk assessment and screening protocols (i.e., with respect to dust-lead and children's PbB levels).
11	Risk Assessment Method Validation Using Existing Data Sets	Data collected from two epidemiological studies of childhood lead exposure will be analyzed to assess the predictive power of the HUD/EPA risk assessment protocol.
12	Lead Hazard Assessment of Carpets	Examine transfer of particles from carpet to hands (conditioned and field samples), distribution of dust and lead within carpet pile, and potential exposure to particulate in "particle cloud" created when walking on carpet.
13	Lead Hazard of Upholstery	The primary objective is to assess the potential for exposure to dust-lead from upholstery (conditioned samples and field samples).
14	Lead Hazard Assessment of Residential Air Ducts Emissions	Laboratory phase will measure lead particle emissions from a simulated household ventilation duct system under varying conditions (air velocity, humidity, etc.).
15	LPB Inspection Protocols for Multifamily Housing	Statistical models will be developed and existing data will be analyzed to evaluate various inspection protocols for detecting and characterizing the presence of LBP in multi-family housing with a reasonable level of confidence.
16	Tracing Dust Lead to Residential Friction Surfaces	Dust samples will be analyzed by several different methods to estimate the contribution of lead-based paint dust from friction surfaces to the lead content of dust on interior residential surfaces.
17	Tracing Dust-Lead to Sources Using Lead Isotopic Composition Analysis	A fast, inexpensive method of lead isotopic analysis (inductively coupled plasma mass spectrometry; ICP-MS) will be used to identify sources of lead in house dust, and to estimate the fraction of children's blood-lead attributed to mobilization of bone-lead.
18	Lead Release From Demolition of Pre-1950 Inner-City Housing	Researchers will measure the release of lead into the surrounding neighborhood (sampling both airborne and settled dust) during the demolition of pre-1950 Baltimore row houses.
19	Accumulation Rate of Exterior Leaded Dust and Reducing Lead Bioavailability in Soils	Determine how quickly lead in exterior dust accumulates in mats placed at the entryways of urban row houses. Identify what factors contribute to high levels of lead in exterior dust. Study mixing organic compost into lead-contaminated soils to reduce the hazards.

Lead Hazard Control Research

20	Effectiveness of Alternative Dust-Lead Cleaning Strategies	Compare the efficacy of non-phosphate cleaner vs. trisodium phosphate in cleaning floors and sills; compare the efficacy of household vacuums vs. HEPA vacuums on same surfaces.
21	Efficacy of Household Vacuums and a Nonphosphate Detergent in Reducing Lead Dust on Floors	Conduct lab testing of household vacuums to select 3 moderately priced vacuums for use in the field component of the study. Compare the performance of the household vacuums with a HEPA vacuum in cleaning lead-contaminated dust. Identify parameters predictive of performance.
22	Factors Affecting the Retention of Leaded Dust in Carpets	The research will identify major factors (e.g., pile height, fiber density, fiber coating) which affect the extent to which carpets can be cleaned of leaded dust in the laboratory and field.
23	Penetration of Particulate Through Vacuum Bags	Develop a method for laboratory testing of commonly available vacuum cleaner bags to determine their efficiency in trapping fine dust.
24	Deposition of Airborne Particulate Following Dust-Generating Activities	Researchers will examine the rate of leaded particulate deposition in a test room following activities which generate significant quantities of leaded dust.
25	Sealing Efficacy of Enclosures	Assess the potential for the migration of leaded dust through joints associated with enclosures in the laboratory.
26	Evaluation of the Effectiveness of Maryland Law (HB 760)	Maryland law requires periodic lead hazard control treatments in all pre-1950 rental housing within the state. This study will evaluate the effectiveness of the required treatments in reducing leaded dust.
27	Cleaning Lead Contaminated Dust from Hard Surfaces	The purpose of this research is to determine the effectiveness of various detergents in cleaning lead-contaminated dust from hard surfaces under varying conditions of wear and dust loading.
28	Monitoring HEPA Vacuum Dust Pick-up with an Aerosol Photometer	The objective of this research is develop a dynamic reading instrument that will indicate when a surface is sufficiently "clean" and thus reduce the rate of post-intervention clearance failures.
29	Ergonomic Risk factors for Lead Hazard Control Workers	Ergonomic risk factors in the lead hazard control industry will be identified through field observations and worker interviews.
30	Reducing Hazards of Lead-Contaminated Urban Soils	Assess low cost methods to reduce the hazard posed by lead-contaminated yard soils in an urban, low income neighborhood. Control methods focus on application of soil contact barriers, including bark mulch, crushed stone, and improved grass and plant cover.
31	Reducing Lead Levels in Urban Sidewalk Dust	Assess ways to reduce levels of lead in dust on inner-city sidewalks. Examine treatments to stabilize deteriorated lead-based paint on building exteriors; conduct regular sidewalk and street cleaning.

Research on Long-term Effectiveness of Lead Hazard Control Interventions

32	Evaluation of HUD Lead Hazard Control Grant Program	Assess the efficacy of various interim control and abatement techniques (based on blood-lead and dust-lead levels) as employed by 14 state and local grantees expected to enroll about 2,900 units
33	Extension to the Baltimore Repair and Maintenance Study	Compare the effectiveness of three levels of interim control interventions (capped at \$1,650, \$3,500, and \$7,000, respectively) applied to structurally sound inner-city Baltimore row houses.
34	Reaccumulation of Dust-Lead Following Cleaning (TLC study homes)	Follow-up dust-wipe sampling in urban homes from the "Treatment of Lead-Poisoned Children" study to determine the rate of reaccumulation of dust-lead following professional cleaning interventions by themselves or in combination with minor repairs.
35	Evaluation of Treatments Required by Maryland Lead-Based Paint Risk Reduction	Evaluate the effectiveness of the risk reduction measures prescribed in Maryland law, HB 760, in bringing the levels of lead dust on floors, window sills, and window troughs down to acceptable levels.
36	Evaluation of the Milwaukee Lead Hazard Control Ordinance	Assess the law requiring low level lead hazard control treatments (focusing on windows) in all pre-1950 rental units in 2 high risk neighborhoods by recruiting infants, with subsequent 2-year follow-up (dust-Pb and blood-Pb). Assess the effect on blood-Pb by screening in treatment and control neighborhoods.

Survey Research

37	National Survey of Lead and Allergens in Housing	Samples are being collected from a nationally representative sample of 750 housing units; lead samples include dust wipes, vacuum samples (carpets), soil, and <i>in-situ</i> XRF testing. NIEHS-funded component will involve vacuum dust sampling for allergen identification.
38	Lead Hazard Awareness Supplement to the December 1999 Current Population Surveys	Approximately 42,000 households will be questioned on their awareness of lead hazards, sources of knowledge of lead hazards, testing of homes and household members for lead exposure, lead hazard reduction practices, and receipt of disclosure information.
39	Lead Module for the 1999 American Housing Survey	Respondents to the 1999 American Housing Survey will be asked about paint deterioration on the interior and exterior of their dwelling, repairs and renovations where lead-based paint may have been disturbed, and the receipt of disclosure among recent movers.

APPENDIX C

The non-standard forms, which follow, are required for your Lead Hazard Control Research application.

Checklist and Submission Table of Contents Lead Hazard Control Research NOFA

The following checklist is provided to ensure that you have submitted all of the required items in order for you to receive consideration for funding under this NOFA. Applicants must check off each item that they have included in their submission package and note the corresponding page number where the response is located. Applicants are to include this Checklist and Submission Table of Contents with the proposal. Application pages must be consecutively numbered.

<u>Check Off</u>	<u>Page Number</u>
<input type="checkbox"/> Transmittal Letter	Cover page
<input type="checkbox"/> Checklist And Submission Table Of Contents (this form)	p. ____
<input type="checkbox"/> Project Abstract (limited to 2 pages)	p. ____
 Application Forms	
<input type="checkbox"/> Standard Form 424 and SF 424A Section B	p. ____
<input type="checkbox"/> Total Budget (Federal Share and Matching)	p. ____
<input type="checkbox"/> HUD 2880 Disclosure and Update Report	p. ____
<input type="checkbox"/> HUD 50070 Drug-Free Workplace Certification	p. ____
<input type="checkbox"/> HUD 50071 Certification of Payments to Influence Federal Transactions	p. ____
<input type="checkbox"/> Form SF-LLL Disclosure of Lobbying Activities Required	p. ____
<input type="checkbox"/> Form SF-LLL not required.	
<input type="checkbox"/> HUD 2992 Certification of Status Regarding Debarred Applicants	p. ____
<input type="checkbox"/> Standard Form 424B (Assurances/Non-Construction Programs)	p. ____
 Response to Rating Factors/Project Description (limited to 25 pages)	
<input type="checkbox"/> 1. Capacity of the Applicant and Relevant Organizational Experience	p. ____
<input type="checkbox"/> 2. Needs/Extent of the Problem	p. ____
<input type="checkbox"/> 3. Soundness of Approach	p. ____
<input type="checkbox"/> 4. Leveraging/Partnerships	p. ____
<input type="checkbox"/> 5. Comprehensiveness and Coordination	p. ____
 Appendices (if applicable)	
<input type="checkbox"/> Appendix 1 - Material in support of Rating Factors 1 through 5	p. ____
<input type="checkbox"/> Appendix 2 - Other materials related to the application	p. ____
<input type="checkbox"/> HUD 2993 Acknowledgment of Application Receipt	p. ____

Spreadsheet version available from www.hud.gov/lea/leaforms.html

Budget Summary

Total Budget (Federal Share and Matching)

Detailed Description of Budget					
3c. Transportation - Other	Quantity	Unit Cost	Estimated Cost	Federal Share	Match
Subtotal - Transportation - Other					
3d. Per Diem or Subsistence (indicate location)	Days	Rate per Day	Estimated Cost	Federal Share	Match
Subtotal - Per Diem or Subsistence					
Total Travel Cost					
4. Equipment (Only items over \$5,000 each)	Quantity	Unit Cost	Estimated Cost	Federal Share	Match
Total Equipment Cost					
5. Supplies and Materials (Items under \$5,000)					
5a. Consumable Supplies	Quantity	Unit Cost	Estimated Cost	Federal Share	Match
Subtotal - Consumable Supplies					
5b. Non-Consumable Materials	Quantity	Unit Cost	Estimated Cost	Federal Share	Match
Subtotal - Non-Consumable Materials					
Total Supplies and Materials Cost					

Spreadsheet version available from www.hud.gov/lea/leaforms.html

Analysis of Total Estimated Costs	Estimated Cost	Percent of Total	Percent of Labor
1 Personnel (Direct Labor)			
2 Fringe Benefits			
3 Travel			
4 Equipment			
5 Supplies and Materials			
6 Consultants			
7 Contracts and Sub-Grantees			
8 Other Direct Costs			
9 Indirect Costs			
Total			

Federal Share
Match

Expressed as a percentage of the Federal Share

Some cells in this spreadsheet are protected. There is no password for this spreadsheet.

Instructions for Completing the Budget Summary Spreadsheet

Lead Hazard Control Research NOFA

Item	Discussion
1 - Personnel (Direct Labor)	<p>This section should show the labor costs for all individuals for whom the grant will directly pay salaries. The hours and costs are <i>for the full life of the grant</i>. <i>If an individual is employed by a contractor or sub-grantee, their labor costs should not be shown here.</i></p> <p>Please include all labor costs which are associated with the proposed grant program, <i>including those costs which will be paid for with in-kind or matching funds.</i></p> <p><i>Do not show fringe or other indirect costs in this section.</i></p> <p>Please use the hourly labor cost for salaried employees (use 2080 hours per year or the value your organization uses to perform this calculation). An <i>employee working less than full time</i> on the grant should <i>show the numbers of hours they will work on the grant.</i></p>
2 - Fringe Benefits	<p>Use the standard fringe rates used by your organization. You may use a single fringe rate (a percentage of the total direct labor) or list each of the individual fringe charges. The spreadsheet is set up to use the Total Direct Labor Cost as the base for the fringe calculation. If your organization calculates fringe benefits differently, please use a different base and discuss how you calculate fringe as a comment.</p>
3 - Travel	
3a - Transportation - Local Private Vehicle	<p>If you plan on reimbursing staff for the use of privately owned vehicles or if you are required to reimburse your organization for mileage charges, show your mileage and cost estimates in this section.</p>
3b - Transportation - Airfare	<p>Show the estimated cost of airfare required to support the grant program effort. Show the destination and the purpose of the travel as well as the estimated cost of the tickets.</p> <p>Each lead program NOFA discusses the travel requirements which should be listed here.</p>

3c - Transportation - Other	<p>If you propose to rent/lease, or are charged monthly by your organization for a vehicle for use by the grant program, indicate those costs in this section.</p> <p>Provide estimates for other transportation costs which may be incurred (metro, etc.).</p>
3d - Per Diem or Subsistence	<p>For travel which will require the payment of subsistence or per diem in accordance with your organization's policies. Indicate the location of the travel.</p> <p>Each lead program NOFA discusses the travel requirements which should be listed here.</p>
4 - Equipment	<p>Equipment is defined by HUD regulations as tangible, nonexpendable, personal property having a useful life of more than one year and an acquisition cost of \$5,000 or more per unit.</p> <p>Each lead program NOFA describes what equipment may be purchased using grant funding.</p>
5 - Supplies and Materials	<p>Supplies and materials are consumable and non-consumable items which have a unit value of less than \$5,000. Please list the proposed supplies and materials as either Consumable Supplies or as Non-Consumable Materials.</p>
5a - Consumable Supplies	<p>List the consumable supplies you propose to purchase. General office or other common supplies may be estimated using an anticipated consumption rate.</p>
5b - Non-consumable materials	<p>List furniture, computers, printers, and other items which will not be consumed in use. Please list the quantity and unit cost.</p>
6 - Consultants	<p>Please indicate the consultants you will use. Indicate the type of consultant (skills), the number of days you expect to use them, and their daily rate.</p>
7 - Contracts and Sub-Grantees	<p>List the contractors and sub-grantees which will help accomplish the grant effort. Other contracts which should be shown here include inspections, risk assessments, and clearance inspections; contracts with Community Based Organizations; liability insurance; contracts with laboratories; and training and certification for contractors and workers.</p> <p><i>If any contractor, sub-contractor, or sub-grantee is to receive over 10% of the total Federal amount requested, a separate Budget Summary worksheet should be developed for that contractor or sub-grantee and the total amount of their effort should be shown as a single entry in this section.</i></p> <p>Unless your proposed program will conduct the primary grant effort (lead hazard control, research, or healthy homes) with in-house employees (reflected in section 1), the costs of the primary grant effort (<i>e.g. interventions</i>) should be shown in this section.</p>

	<p>Types of activities which should be shown in this section:</p> <ul style="list-style-type: none"> • Contracts for all services • Training for individuals not on staff • Contracts with Community Based Organizations or Other Governmental Organizations (<i>note the 10% requirement discussed above</i>) • Insurance if your program will procure it separately <p>Please provide a short description of the activity the contractor or subgrantee will perform, if not evident.</p>
<p>8 - Other Direct Costs</p>	<p>Other Direct Costs include a number of items that are not appropriate for other sections.</p> <p>Other Direct Costs may include:</p> <ul style="list-style-type: none"> • Staff training • Telecommunications • Printing and postage • Relocation, if costs are paid directly by your organization (if relocation costs are paid by a subgrantee, it should be reflected in Section 7)
<p>9 - Indirect Costs</p>	<p>OMB Circular A87 defines indirect costs are those that have been incurred for common or joint purposes. These costs benefit more than one cost objective and cannot be readily identified with a particular final cost objective without effort disproportionate to the results achieved. Indirect costs include (a) the indirect costs originating in each department or agency of the governmental unit carrying out Federal awards and (b) the costs of central governmental services distributed through the central service cost allocation plan and not otherwise treated as direct costs.</p> <p>The spreadsheet is set up to use the Total Direct Labor plus the Fringe Benefits costs as the base for the indirect cost calculation. If your organization calculates indirect costs differently, please use a different base and discuss how you calculate fringe as a comment.</p>

The three rightmost columns allow you to identify how the costs will be spread between the Federal Share and the Match. This information will help the reviewers better understand your program and priorities. The far right column is an "error checking" function to confirm that the estimated cost is equal to the sum of the Federal Share and the Match. If there is a discrepancy, the word "Error" will appear.

Note: The formats and many of the cells for the spreadsheet (which can be downloaded from the HUD Office of Lead Hazard Control website at www.hud.gov/lea/fedshare.xls) are protected. There is no password for the protection.