

**DEPARTMENT OF HOUSING
AND URBAN DEVELOPMENT**

**HEALTHY HOMES AND LEAD
TECHNICAL STUDIES**

Billing Code 4210-32-C

Funding Availability for Healthy Homes and Lead Technical Studies

Program Overview

Purpose of the Program. To fund technical studies to improve methods for detecting and controlling lead-based paint and other residential health and safety hazards. The purpose of the Healthy Homes Technical Studies program is to improve our knowledge of housing-related health hazards, and to improve or develop new hazard assessment and control methods. The purpose of the Lead Technical Studies program is to improve methods for detecting and controlling residential lead-based paint hazards.

Available Funds. Approximately \$2 million for healthy homes technical studies in FY 2003 funds; and approximately \$3 million for lead technical studies, of which approximately \$1.25 million is FY 2003 funds, and approximately \$1.75 million is previous-year recaptured funds.

Eligible Applicants. Academic, not-for-profit and for-profit institutions located in the U.S., State and local governments, and federally recognized Native American tribes are eligible to apply. Historically Black Colleges and Universities (HBCUs) are also eligible to apply under a set-aside for technical studies on increasing the efficacy of lead hazard control (LHC) programs in low-income urban minority communities. For-profit institutions are not allowed to earn a fee.

Application Deadline. June 10, 2003.
Match. None required.

Additional Information

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

I. Addresses And Application Submission Procedures

(A) Application Submission

See the General Section of this SuperNOFA for specific procedures concerning the form of application submission (e.g., mailed applications, express mail or overnight delivery). There is no Application Kit. All the information required to submit an application is contained in this NOFA.

(B) Address for Submitting Applications

You, the applicant, must submit a complete application to: Department of Housing and Urban Development, Office of Healthy Homes and Lead Hazard Control, ATTN: Lead and Healthy Homes Technical Studies Program, 451

Seventh Street, SW., Room P3206, Washington, DC 20410.

(C) For Further Information and Technical Assistance

You may contact Dr. Peter Ashley, Office of Healthy Homes and Lead Hazard Control, at the address above; telephone (202) 755-1785, extension 115 (this is not a toll-free number) or via email at Peter_J_Ashley@hud.gov. If you are a hearing-or speech-impaired person, you may reach the above telephone numbers via TTY by calling the toll-free Federal Information Relay Service at 1-800-877-8339.

II. Authority, Funding Amounts, And Eligibility

(A) Authority

These grants are authorized under sections 1011(g)(1), 1011(o), 1051-1053 of the Residential Lead Based Paint Hazard Reduction Act of 1992, which is Title X of the Housing and Community Development Act of 1992; sections 501 and 502 of the Housing and Urban Development Act of 1970; and the Consolidated Appropriations Resolution of 2003, Public Law 108-7, signed February 20, 2003.

(B) Funding Available

(1) *Healthy Homes Technical Studies.* Approximately \$2 million from HUD's Fiscal Year (FY) 2003 Healthy Homes Initiative appropriation set-aside will be available to fund technical studies proposals. Grants or cooperative agreements will be awarded on a competitive basis according to the Rating Factors described in Section V(B). For technical studies under the Healthy Homes Initiative, HUD anticipates awarding three to six grants ranging from approximately \$200,000 to approximately \$1 million. The project duration may be up to 24 months, except for projects involving human subjects that require Institutional Review Board (IRB) approval and periodic monitoring, which cannot exceed 30 months. HUD reserves the right to approve no cost time extensions for a period not to exceed 12 months. The amounts included in this program are subject to change based on funds availability.

(2) *Lead Technical Studies.* Approximately \$3 million for lead technical studies, of which approximately \$1.25 million is from the FY 2003 lead technical assistance set-aside under the lead hazard reduction appropriation, and approximately \$1.75 million is previous-year recaptured funds, will be available to fund lead technical studies proposals in FY 2003.

Of this amount, \$2.25 million is set-aside for HBCUs. The remaining funds are available to fund technical studies applications from all eligible applicants. Grants or cooperative agreements will be awarded on a competitive basis according to the Rating Factors described in Section V(B) of this program section of this NOFA. For lead technical studies, HUD anticipates awarding between three and 30 grants ranging from approximately \$100,000 to approximately \$1 million. The project duration may be up to 24 months, except for projects involving human subjects that require Institutional Review Board (IRB) approval and periodic monitoring, which cannot exceed 30 months. HUD reserves the right to approve no cost time extensions for a period not to exceed 12 months. The amounts included in this program are subject to change based on funds availability.

(C) Eligible Applicants

Academic and not-for-profit institutions located in the U.S., State and local governments, and federally recognized Native American tribes 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). HBCUs, that is, educational institutions which satisfy the requirements of 34 CFR 608.2, are eligible to apply under the set-aside for the Lead Technical Studies Program, as described in sections III.A.3 and III.C.2(a), as well as under the general provisions of this NOFA for both the Healthy Homes Technical Studies Program and Lead Technical Studies Program. HBCUs should identify whether each application is being submitted under the set-aside or the general provisions. Federal agencies and federal employees are not eligible to submit applications. The General Section of this SuperNOFA provides additional eligibility requirements.

III. Program Description And Eligible Activities

(A) Program Description

(1) *General Goals and Objectives.* The overall goal of the Healthy Homes and Lead Technical Studies grant program is to gain knowledge to improve the efficacy and cost-effectiveness of methods for evaluation and control of lead and other health and safety hazards in the home.

Through the Healthy Homes Technical Studies Program, HUD is funding studies to improve our knowledge of housing-related health

hazards, and to improve or develop new hazard assessment and control methods, with a focus on the key hazards described in Appendix A of this program section of the NOFA.

Through the Lead Technical Studies Program, HUD is helping "develop the capacity of eligible applicants * * * to carry out activities under" lead hazard control grant programs, by advancing the technology and increasing the effectiveness of workers on LHC projects, in fulfillment of the requirements of Section 1011(g)(1) of Title X, and is "conduct[ing] research to develop improved methods for evaluating (and) reducing lead-based paint hazards in housing," and related topics, in fulfillment of the requirements of sections 1051 and 1052 of Title X.

HUD encourages applicants to consider using the "community based participatory research" approach, where applicable, in the design and implementation of both healthy homes and lead technical studies (see *e.g.*, <http://www.niehs.nih.gov/translat/cbpr/cbpr.htm>).

A table of examples of current Healthy Homes and Lead Technical Studies projects being funded by HUD can be found in Appendix C.

(2) *Healthy Homes Initiative*. The Healthy Homes Initiative (HHI), which includes the Healthy Homes Technical Studies Program, departs from the more traditional approach of attempting to correct one hazard at a time. In April 1999, HUD submitted to Congress a preliminary plan containing a full description of the HHI. The preliminary plan (Summary and Full Report) and a description of the HHI are available on the HUD Web site at www.hud.gov/offices/lead/hhi/index.cfm.

In addition to deficiencies in basic housing facilities that may impact health, changes in the U.S. housing stock and more sophisticated epidemiological methods and biomedical research have led to the identification of new and often more subtle health hazards in the residential environment (*e.g.*, asthma and mold-induced illness). While such hazards will tend to be found disproportionately in housing that is substandard (*e.g.*, structural problems, lack of adequate heat, etc.), such housing-related environmental hazards may also exist in housing that is otherwise of good quality. Appendix A of this program section of the NOFA briefly describes the housing-associated health and injury hazards HUD considers key targets for intervention. Appendix B of this program section of the NOFA lists the references that serve as the basis for the

information provided in this program section.

HUD is interested in promoting approaches that are cost-effective and efficient and that result in the reduction of health threats for the maximum number of residents for the long run, and, in particular, low-income children. The overall goals and objectives of the HHI are to:

(a) Mobilize public and private resources, involving cooperation among all levels of government, the private sector, grassroots organizations, particularly including faith-based, and other community-based, non-profit organizations to develop the most promising, cost-effective methods for identifying and controlling housing-based hazards; and

(b) Build local capacity to operate sustainable programs that will continue to prevent and, where they occur, minimize and control housing-based hazards in low- and very low-income residences when HUD funding is exhausted.

With this NOFA, HUD hopes to advance the recognition and control of residential health and safety hazards and more closely examine the link between housing and health.

The overall objectives of Healthy Homes technical studies projects to be funded through this NOFA include, but are not limited to:

(i) Investigation of the epidemiology of housing-related hazards and illness and injury;

(ii) Development and assessment of low-cost test methods and protocols for identification and assessment of housing-related hazards;

(iii) Development and assessment of cost-effective methods for reducing or eliminating housing-related hazards;

(iv) Evaluation of the effectiveness of housing interventions and public education campaigns, and barriers and incentives affecting future use of the most cost-effective strategies; and

(v) Investigation of the health effects on children living in deteriorated housing and the impact on their development and productivity.

HUD has also developed resource papers on a number of topic areas of importance under the Healthy Homes Initiative, including mold, environmental aspects of asthma, carbon monoxide, and unintentional injuries. These papers can be downloaded from the HUD Web site at www.hud.gov/offices/lead/hhi.

(3) *Lead Technical Studies*.

(a) General. 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 of 1971, as amended, 42 U.S.C. 4801–4856. 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 technical studies on specific topics related to the evaluation and subsequent mitigation of residential lead hazards. Section 1053 of Title X authorized HUD to spend funds to conduct these studies, under the Lead Hazard Control Grant Program's funding authorization in Section 1011(o). The HUD-sponsored technical studies program also responds to recommendations 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 B of this program section of this NOFA), recommended that research be conducted on a number of key topics to address significant gaps in our knowledge of lead exposure and hazard control.

The findings of technical studies 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 partly amended in September 1997. The *Guidelines* include state-of-the-art procedures for all aspects of lead-based paint hazard evaluation and control. The *Guidelines* reflect the Title X framework for LHC, which distinguishes two types of control measures: interim controls and abatement of lead-based paint hazards. 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 technical studies and field experience will result in future changes to the *Guidelines*. For availability of the *Guidelines*, see Appendix B.

HUD is especially interested in the following lead technical studies topics:

(i) Evaluation of interior and exterior LHC methodologies, especially novel approaches;

(ii) The effectiveness of ongoing maintenance activities in controlling lead-based paint hazards; and

(iii) Other areas of focus that are consistent with the overall goals of HUD's lead technical studies program.

(b) HBCU set-aside. As noted in the Program Overview, above, HBCUs are defined as those listed in 34 CFR 608.2 (see, for example, www.ed.gov/offices/ope/hep/idades/hbculist.html). The lead technical studies program includes a set-aside of \$2.25 million for HBCUs. This set-aside is established for HBCUs to expand their role and effectiveness in addressing community development needs, specifically for conducting technical studies focused on increasing the efficacy of LHC programs in low-income, minority communities, consistent with the purposes of title I of the Housing and Community Development Act of 1974 in addressing critical social, economic, and environmental problems facing Nation's urban communities (see 42 U.S.C. 5301). Low-income, minority children in these communities are at highest risk of suffering of exposure to lead-based paint hazards and subsequently developing lead poisoning (Morbidity and Mortality Weekly Report, 1997; Jacobs *et al.*, 2002). The Department is aware that HBCUs are often involved in projects that address problems such as lead poisoning, that disproportionately affect low-income, minority populations. The goal of this set aside is to encourage HBCUs to apply their unique perspective on community issues and the community relationships that they have established, to design and implement technical studies to increase the efficacy of LHC programs in their communities and in additional communities, in accordance with section 1011(g)(1) of Title X, which requires HUD to "develop the capacity of eligible applicants * * * to carry out activities under" LHC grant programs.

HBCU applications should understand that the ultimate goal of these LHC grant programs is to reduce the incidence of childhood lead poisoning by identifying and eliminating lead hazards in target, privately owned, housing (see FY 2003 NOFA for LHC grants). Important aspects of the HUD LHC grants include:

- (i) Working cooperatively with other governmental and community-based organizations;
- (ii) Identifying target housing and recruiting owners into the program;
- (iii) Identifying lead-based paint hazards and developing work specifications for contractors;
- (iv) Awarding contracts and ensuring that work is completed;
- (v) Conducting outreach and education to residents and the community; and

(vi) Promotion of job training, employment, and other economic opportunities for low-income and minority residents and businesses.

LHC grantees are encouraged to employ hazard control interventions that are effective in eliminating lead hazards while minimizing (*e.g.*, using interim controls instead of complete abatement) cost so that the largest number of housing units can be treated. HUD conducted an evaluation of the effectiveness of lead hazard interventions conducted by the initial recipients of the Department's lead-hazard control grants and these were found to be effective in reducing dust-lead levels (preliminary results were reported by Galke *et al.* 2001).

(B) Eligible Activities

(1) Healthy Homes Technical Studies.

(a) Evaluation of residential health and safety hazard assessment and control methodologies and approaches (including both existing methods and the evaluation of improved or novel approaches). Areas of particular interest to HUD include:

(i) Improving indoor air quality, such as through cost-effective approaches to upgrading residential ventilation or improving control/management of combustion appliances. Applicants should discuss how proposed approaches might affect residential energy costs (*e.g.*, increasing air exchange rates resulting in an increase in heating costs);

(ii) Improving or assessing the efficacy of current methods for residential Integrated Pest Management (IPM). IPM approaches focus on the use of economical means for managing pests, which incorporate information on the life cycles of pests and their interaction with the environment, while minimizing hazards to people, property, and the environment. HUD is particularly interested in IPM methods for reducing cockroach and/or rodent populations in multifamily housing;

(iii) Controlling excess moisture and dust control measures (*e.g.*, preventing track-in of exterior dust and soil, improved methods for interior dust cleaning) have been identified as key areas in the HHI Preliminary Plan;

(iv) Evaluate the effectiveness of education and outreach methods designed to provide at-risk families with the knowledge to adopt self-protective behaviors with respect to housing-related health hazards; and

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

(b) Analysis of existing data or generation of new data to improve

knowledge regarding the prevalence and severity of specific hazards in various classes of housing, with a focus on low-income housing. Specific examples include:

(i) The prevalence of carbon monoxide and other indoor air quality hazards;

(ii) The prevalence and patterns of moisture problems and biological contaminants associated with excess moisture (*e.g.*, fungi, bacteria, dust mites);

(iii) The prevalence of specific childhood injury hazards in housing; and

(iv) Improved understanding of the relationship between a residential exposure and childhood illness or injury.

(c) Low-cost analytical techniques for the rapid, on- and off-site determination of environmental contaminants of concern (*e.g.*, bioaerosols, pesticides, allergens).

(i) Establish and validate any necessary procedures (*e.g.*, such as extraction and/or digestion) that would work well with the field device/procedure;

(ii) Improve old technology (*e.g.*, colorimetric tests, titrimetric procedures) as well as examine and improve newer techniques; and

(iii) Consider the safety, environmental impacts, and cost of the procedure, particularly as used in the field.

(d) In proposing technical studies within the broad topic areas discussed in III.C.1(a) and III.C.1(b), applicants should consider:

(i) The "fit" of the proposed hazard assessment and/or control methods within the overall goal of addressing "priority" health and safety hazards in a cost-effective manner;

(ii) The efficacy of the proposed methods for hazard control and risk reduction (*e.g.*, how long is effective hazard reduction maintained?);

(iii) Consider where and how these methods would be applied and tested, and/or perform demonstration activities; and

(iv) The degree to which your study will help develop practical, widely applicable methods and protocols or improve our understanding of a residential health hazard.

Although HUD is soliciting proposals for technical studies on these broad topics, HUD will also consider funding applications for technical studies on topics that are relevant under the overall goals and objectives of this program, as described above. In such instances, the applicant should describe how the

proposed project activity addresses these overall goals and objectives.

Applicants should consider the efficiencies that might be gained by working cooperatively with some of the recipients of HUD's Healthy Homes and Lead Hazard Control grants, which are widely distributed throughout the U.S. Information on current grantees is available at www.hud.gov/offices/lead.

You may address one or more of the technical studies topic areas within your proposal, or submit separate applications for different topic areas.

(2) *Lead Technical Studies.*

(a) *Set-Aside for Historically Black Colleges and Universities for Technical Studies on Increasing the Efficacy of Lead Hazard Control Programs in Low-Income, Urban Communities.*

Conduct studies focused on evaluating and improving the efficacy of LHC programs as conducted in low-income, urban communities. You are encouraged to focus on one or more important components of a LHC program, as discussed in section III.A.3, above, with the goal being to increase the effectiveness of that component (e.g., selection and recruitment of units, design of interventions, contracting, promotion of job training, outreach and education). You are encouraged to work with the organizations that are currently administering LHC programs as well as with the community in the design and implementation of your study. As noted in section III.A.1(i), above, you are encouraged to use the "community-based participatory research" approach, where applicable, in the design and implementation of your studies.

In order that your studies can be relied upon for use in other communities and programs, it is important that your findings be statistically and programmatically verifiable. You are encouraged to use a study design that incorporates objective, quantitative measures of performance, and that assesses hypotheses that can be evaluated statistically based on the data obtained by your studies.

Some examples of design options are:

(i) Evaluate one or more components of an existing HUD LHC grant, propose a revised approach that reflects the findings of the evaluation, and evaluate the application of the revised approach;

(ii) Compare the effectiveness of a component across two or more existing HUD LHC grants, propose a revised approach that reflects the findings of the evaluation, and evaluate the application of the revised approach; or

(iii) Compare the effectiveness of one or more components among two or more jurisdictions, some of which have HUD LHC grants and some which do not,

propose how jurisdictions without control grants could better achieve some of the goals of control grants, and evaluate the application of the proposed method in jurisdictions without LHC control grants.

(b) *Evaluation of Interior and Exterior Lead Hazard Control Methodologies, Especially Novel Approaches.* Identify and evaluate new methods and/or techniques for lead-based paint 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 LHC 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 LHC grants, and for possible inclusion in future revisions to the *Guidelines*.

(c) *The Effectiveness of Ongoing Maintenance Program Activities in Controlling Lead-Based Paint Hazards.* While a variety of lead abatement and interim control techniques have been evaluated for their effectiveness in controlling lead-based paint hazards at and after their implementation, there are few studies directly assessing the effectiveness of ongoing lead-based paint maintenance programs. Evaluate the effectiveness and feasibility of developing and implementing ongoing lead-based paint maintenance programs, identify program components for which particular implementation difficulties exist, and evaluate proposed measures for overcoming those difficulties. Such quantitative evaluation of program components could address whether and how technically-acceptable and cost-effective work practices are selected and implemented, how effective supervisors are in monitoring work activities to ensure that lead-based paint hazards are controlled and that dust and debris are contained and cleaned up during work, and how well clearance procedures (including necessary re-cleaning) are integrated into the maintenance program, among other factors.

(d) *Other Focus Areas that are Consistent with the Overall Goals of HUD's Lead Technical Studies Program.* Additional ideas will be considered with an open mind toward novel techniques and applications. Although HUD is soliciting proposals for technical studies on some specific topics, HUD

will also consider funding applications for technical studies on topics which are relevant under the overall goals and objectives of the LHC technical studies program, as described above. In such instances, the applicant should describe how the proposed activity addresses these overall goals and objectives.

(C) *Ineligible Activities*

(1) Purchase or lease of equipment having a per unit cost in excess of \$5,000, unless prior written approval is obtained from HUD.

(2) Medical treatment costs.

IV. Program Requirements

In addition to the requirements listed in Section V of the General Section of this SuperNOFA, the applicant must comply with requirements of this Section IV.

(A) *Administrative Costs*

There is a 10% maximum for administrative costs for successful applicants. Additional information about allowable administrative costs is provided in Appendix E of this program section of the NOFA.

(B) *Period of Performance*

The period of performance cannot exceed 24 months from the time of award, except for projects involving human subjects that require Institutional Review Board (IRB) approval and periodic monitoring, which cannot exceed 30 months. The additional time is allowed for obtaining approval for such studies, under HUD regulation (24 CFR part 60), which incorporates the Department of Health and Human Services' regulation of studies involving human subjects. In addition, HUD reserves the right to approve no cost time extensions for a total period not to exceed 12 months.

(C) *Program Performance*

Grantees shall take all reasonable steps to accomplish all grant-funded activities within the approved period of performance. HUD reserves the right to terminate the grant prior to the expiration of the period of performance if the grantee fails to make reasonable progress in implementing the approved program of activities.

(D) *Certifications and Assurances*

In addition to the certifications mentioned in the Section V(H) of the General Section of this NOFA, you must comply with:

- (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 B of this program section of the NOFA);

(3) HUD technical studies grant funds will not replace existing resources dedicated to any ongoing project;

(4) Laboratory analysis covered by the National Lead Laboratory Accreditation Program (NLLAP) will be 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; and

(6) The requirements of OSHA (*e.g.*, 29 CFR part 1910 and/or 1926, as applicable) or the State or local occupational safety and health regulations, whichever are most stringent, will be met;

(7) If an individual researcher or a research team submits the application, the institution administering the grant will meet the civil rights threshold in Section V of the General Section of this NOFA.

(E) Conducting Business in Accordance with HUD Core Values and Ethical Standards

If awarded assistance under this NOFA, prior to entering into a grant agreement with HUD, you will be required to submit a copy of your code of conduct and describe the methods you will use to ensure that all officers, employees, and agents of your organization are aware of your code of conduct. See Section V of the General Section of the SuperNOFA for information about conducting business in accordance with HUD's core values and ethical standards.

(F) Participation in HUD-Sponsored Program Evaluation

As a condition of the receipt of financial assistance under this NOFA, you will be required to cooperate with all HUD staff or contractors performing HUD-funded research and evaluation studies pertaining to the subject of the grant.

(G) HUD Reform Act of 1989

The provisions of the HUD Reform Act of 1989 that apply to this NOFA are explained in the General Section of the NOFA at section XI.

V. Application Selection Process

(A) Threshold Requirements

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 NOFA. Your application must receive a total score of at least 75 points to remain in consideration for funding.

(B) Rating and Ranking

Awards will be made separately in rank order for Healthy Homes Technical Studies applications and for each category of Lead Technical Studies applications, within the limits of funding availability for each program.

(1) *Award Factors.* Applications will be reviewed by a Source Evaluation Board which will assign each application a numerical score based on the rating factors presented below (see also section V(B) of the NOFA). Each factor is weighted as indicated by the number of points that are attainable for it. The maximum score that can be assigned to an application is 102 points. Applicants should be certain that these factors are adequately addressed in the project description (see Section 2) and accompanying materials. The five rating factors are listed below.

Rating Factor 1: Capacity of the Applicant and Relevant Organizational Experience (30 points)

Rating Factor 2: Need/Extent of the Problem (10 points)

Rating Factor 3: Soundness of Approach (45 points)

Rating Factor 4: Leveraging Resources (5 points)

Rating Factor 5: Achieving Results and Program Evaluation (10 points)

RC/EZ/EC Bonus Points (2 points)

TOTAL: 102 points

Applicants are eligible to receive two bonus points for projects located within federally designated Renewable Communities (RC)/Employment Zones (EZ)/Enterprise Communities (EC) (RC/EZ/ECs) and which will serve the residents of these communities (see Section VI of the General Section of this NOFA).

You will receive one point under Rating Factor 3(1) for each of the applicable FY 2003 policy priorities that are adequately addressed in your application, up to a maximum of three points (see Section II of the General Section of this NOFA). Policy priorities that are applicable to the Lead and Healthy Homes Technical Studies NOFA are: (1) Improving our Nation's Communities (focus on distressed communities); (2) Providing Full and

Equal Access to Grass-Roots Faith-based and other Community-based Organizations in HUD Program Implementation; and (3) Colonias.

Within each of the two technical studies program areas, you may address more than one of the technical study topic areas within your proposal (*e.g.*, a healthy homes technical studies applicant can address multiple topics consistent with the HHI program objectives) or submit separate applications for different topic areas. 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 (plus up to six months to accommodate approval by an IRB for human subjects research)), so useful information generated from the technical studies 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 Negotiation section VI(D) in the General Section of this NOFA.

(2) *Partial Funding.* 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 14 calendar days to accept such a reduced award. If you fail to respond within the 14-day limit, you shall be considered to have declined the award.

(3) *Remaining Funds.* See section VI of the General Section of this NOFA for HUD's procedures if funds remain after all selections have been made within a category of the Lead Technical Studies Program.

(C) Rating Factors

The factors for rating and ranking applicants, and maximum points for each factor, are provided below. The factors or their assigned points differ somewhat from those used for most program areas included in this NOFA because they have been amended for rating the unique aspects of technical study applications. The maximum number of points to be awarded is 102.

Rating Factor 1: Capacity of the Applicant and Relevant Organizational Experience (30 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* (20 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 technical study that is proposed under this program section of this NOFA; and

(2) *Past performance of the study team in managing similar projects* (10 points). Demonstrated ability to successfully manage various aspects of a complex technical study in such areas as logistics, study personnel management, data management, quality control, community study involvement (if applicable), and report writing, as well as overall success in project completion (*i.e.*, projects 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 (10 Points)

This factor addresses the extent to which there is a need for your proposed technical study. In responding to this factor, you should document in detail how your project 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 (A) and (C)(1)–(2). You should demonstrate how your proposed study addresses a need associated with an important housing-related health hazard, with an emphasis on children's health. Specific topics to be addressed for this factor include:

(1) Provide a concise review of the health hazard that is addressed in your study and why you consider it a "high priority" hazard. If appropriate, include documented rates of illness or injury associated with the hazard, including local, regional, and national data;

(2) Discuss how your proposed project would significantly advance the current state of knowledge for your focus area, especially with respect to the development of practical solutions; and

(3) Discuss how you anticipate your study findings will be used to improve

current methods for assessing or mitigating the hazard that your study addresses. Indicate why the method/protocol that would be improved through your study would be widely adopted (*e.g.*, low cost, easily replicated, lack of other options).

Rating Factor 3: Soundness of Approach (45 Points)

This factor addresses the quality of your proposed technical study plan. Specific components include:

(1) *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 clearly describe how your study builds upon the current state of knowledge for your focus area. If possible, your study should be designed to address testable hypotheses, which are clearly stated. Your study design should be statistically based, with adequate power to test your stated hypotheses. The study design should be presented as a logical sequence of steps or phases, with individual tasks described for each phase. You should identify any important "decision points" in your study plan and you should discuss plans for data management, analysis and archiving.

Indicate if you will address any of the Department's FY 2003 policy priorities that are applicable to this program (see Section II of the General Section of this NOFA for a description of these policy priorities). You will receive one point for each of the applicable policy priorities that are addressed in your application. Policy priorities that are applicable to the Healthy Homes and Lead Technical Studies programs are: (1) Improving the Quality of Life in Our Nation's Communities (focus on distressed communities); (2) Providing Full and Equal Access to Faith-Based and Other Community-Based Organizations in HUD Program Implementation; and (3) Colonias (improving housing conditions for families living in Colonias).

(2) *Quality assurance mechanisms* (10 points). You must describe the quality assurance mechanisms that will be integrated into your project design to ensure the validity and quality of the results.

(a) 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) that provide the basis for your quality assurance mechanisms should be cited.

(b) If your project involves human subjects in a manner which requires Institutional Review Board (IRB) approval and periodic monitoring, address how you will obtain such approval and your monitoring plan (before you can receive funds from HUD for activities that require IRB approval, you must provide an assurance that your study has been reviewed and approved by an IRB and evidence of your organization's "institutional assurance;" see Section VI(A)(6)). Describe how you will provide informed consent (*e.g.*, from the subjects, their parents or their guardians, as applicable) to help ensure their understanding of, and consent to, the elements of informed consent, such as the purposes, benefits and risks of the research. Describe how this information will be provided and how the consent will be collected. For example, describe your use of "plain language" forms, flyers and verbal scripts, and how you plan to work with families with limited English proficiency or primary languages other than English, and with families including persons with disabilities.

(3) *Project management plan* (8 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. You are encouraged to plan a project with a duration of 24 months or less (or 30 months or less for projects requiring IRB approval). You should include preparation of one or more articles for peer-reviewed academic journals and submission of the draft(s) to the journal(s) after HUD acceptance during the period of performance of your grant.

(4) *Budget Proposal* (2 points).

(a) 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 NOFA. HUD is not required to approve or fund all proposed activities. Your budget should be submitted in the format provided in Appendix D (an electronic spreadsheet is available on HUD's Web site, www.hud.gov/offices/lead). You must thoroughly document and justify all budget categories and costs (Part B of Standard Form 424A) and all major tasks, for yourself, sub-recipients, partners, major subcontractors, joint

venture participants, or others contributing resources to the project (especially those proposed to receive more than 10% of the federal budget request). Your budget proposal should be activity- and task-related.

(b) Your narrative justification associated with these budgeted costs should be included as an attachment to the Total Budget (Federal Share and Matching), but does not count in the 25-page limit for this submission.

(c) The application will not be rated on the proposed cost; however, cost will be considered in addition to the rated factors to determine the proposal most advantageous to the Federal government. Cost will be the deciding factor when proposals ranked under the listed factors are considered acceptable and are substantially equal.

Rating Factor 4: Leveraging Resources (5 Points)

Your proposal should demonstrate that the effectiveness of HUD's Healthy Homes and Lead Technical Studies grant funds is being increased by securing other public and/or private resources or by structuring the project in a cost-effective manner, such as integrating the project into an existing study. Resources may include funding or in-kind contributions (such as services, facilities or equipment) allocated to the purpose(s) of your project. 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 project efforts. Each letter of commitment, memorandum of understanding, or agreement to participate must 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: Achieving Results and Program Evaluation (10 Points)

This factor emphasizes HUD's commitment to ensuring that applicants keep promises made in their applications and assess their performance to ensure performance goals are met. Achieving results means you, the applicant, have clearly identified the benefits or outcomes of your program. Outcomes are ultimate goals. Benchmarks or outputs are

interim activities or products that lead to the ultimate achievement of your goals.

Program evaluation requires that you, the applicant, identify program outcomes, interim products or benchmarks, and performance indicators that will allow you to measure your performance. Performance indicators should be objectively quantifiable and measure actual achievements against anticipated achievements. Your evaluation plan should identify what you are going to measure, how you are going to measure it, and the steps you have in place to make adjustments to your work plan if performance targets are not met within established timeframes.

This new rating factor reflects HUD's goal to embrace high standards of ethics, management and accountability. In evaluating this factor, HUD will consider how you have described outcome measures and benefits of your program.

In your response to this Rating Factor you are to discuss the performance goals for your project and identify specific outcome measures. You are also to describe how the outcome information will be obtained, documented, and reported. You must complete and return the Logic Model Form included in Appendix B of the General Section of the SuperNOFA showing your proposed project long-term, mid-term, short-term and final results, and how they support HUD's departmental goals and objectives. Information about developing a Logic Model is available at www.hud.gov.

Also, in responding to this factor, you should:

(a) Identify benchmarks that you will use to track the progress of your study;

(b) Identify important study milestones (e.g., the end of specific phases in a multiphased study), which should also be clearly indicated in your study timeline;

(c) Identify milestones that are critical for achieving study objectives (e.g., recruitment of study participants, developing a new analytical protocol), potential obstacles in meeting these objectives, and how you would respond to these obstacles;

(d) Identify how your program will be held accountable for meeting program goals, objectives, and the actions undertaken in implementing the grant program.

This new rating factor reflects HUD's goal to embrace high standards of ethics, management and accountability.

VI. Application Submission Requirements

(A) Applicant Data

Your application must contain the items listed in this Section (VI(A)). These items include the standard forms, certifications, and assurances listed in the General Section of this NOFA 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 item required with your application is a non-standard form (i.e., excluding such items as narratives) that can be found as Appendix D to this is NOFA. The items are:

(1) A transmittal letter, signed by the chief executive or other authorized official, that identifies what the technical study program funds are requested for (you should clearly specify that you are applying for funds under either the HHI technical studies program or the LHC technical studies program), the dollar amount requested, and the applicant(s) submitting the application. 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. If two or more organizations are working together on the project, a primary applicant must be designated.

(2) Application Abstract Summary. An abstract describing the project title, the names and affiliations of all investigators, and a summary of the objectives, expected results, and study design (two-page maximum) must be included in the proposal.

(3) Checklist and Submission Table of Contents (see Appendix D).

(4) All forms as required by Section V(H) of the General Section of this SuperNOFA. A Certification of Consistency with the Consolidated Plan is not required for this application.

(5) A project description/narrative statement addressing the rating factors for award of funding under this program section of the NOFA. The narrative statement must be numbered in accordance with each factor for award (Rating Factors 1 through 5). The project description can either be included in the responses to the rating factors or provided separately. The response to the rating factors should not exceed a total of 25 pages (10- to 12-point font with at least 3/4 inch margins on 8 1/2" by 11"

pages) for each technical study topic area. Any pages in excess of this limit will not be read.

(6) In conformance with the Common Rule (Federal Policy for the Protection of Human Subjects, codified by HUD at 24 CFR Part 60), if your research involves human subjects, your organization must provide an assurance (e.g., a letter signed by an appropriate official) that the research has been reviewed and approved by an IRB before you can receive funds from HUD for activities that require IRB approval. Before receiving such funds, you must also provide the number for your organization's assurance (i.e., an "institutional assurance") that has been approved by the Department of Health and Human Service's Office of Human Research Protections (OHRP). For additional information on what constitutes human subject research or how to obtain an institutional assurance see the OHRP Web site at <http://ohrp.osoph.dhhs.gov/>.

(7) Within Appendix 1, 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 technical studies. This information will not be counted towards the page limit.

(8) Within Appendix 3, 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) Rating Factor 3(5), above. *In completing the budget forms and justification, you should address the following elements:*

(a) Direct Labor costs should include all full- and part-time staff required for the planning and implementation phases of the project. These costs should be based on FTE (full time equivalent) or hours per year (hours/year) (i.e., one FTE equals 2,080 hours/year);

(b) You should budget for two trips to HUD Headquarters in Washington, DC, planning each trip for two people, assuming a stay of one or two days, depending on your location;

(c) A separate budget proposal should be provided for any subrecipients receiving more than 10% of the total federal budget request;

(d) You should be prepared to provide supporting documentation for salaries and prices of materials and equipment upon request;

(e) Organizations that have a federally-negotiated indirect rate should use that rate and the appropriate base. Other organizations should use their current overhead rate; and

(f) You should submit the negotiated rate agreements for fringe benefits and indirect costs, if applicable, as an attachment to the budget sheets.

(9) Any important attachments, appendices, references, or other relevant information may accompany the project description, but must not exceed 20 pages for the entire application, although mandatory materials (budget detail and justification, organizational chart, resumes, job descriptions, letters of commitment and memoranda of agreement from participating organizations) are not included in this page limit. Any pages in excess of this limit will not be read.

(B) Quality Assurance Plan (QAP)

Successful applicants will be required to submit a Quality Assurance Plan to HUD prior to initiating work under the grant. This is a streamlined version of the format used by some other federal agencies, and is intended to help ensure the accuracy and validity of the data that you will collect under the grant. You should plan for this and include it in your study work plan. (See the HUD Office of Healthy Homes and Lead Hazard Control's Internet site, www.hud.gov/offices/lead/.)

(C) Applicant Debriefing

See Section the General Section of this NOFA for information about applicant debriefing.

VII. Corrections to Deficient Applications

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

VIII. Environmental Requirements

In accordance with 24 CFR 50.19(b)(1) and (b)(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.

Appendix A

The following briefly describes the residential health and injury hazards HUD considers key targets for intervention:

Allergens and asthma: Experts estimate that 14 million Americans have asthma, with an associated annual cost of \$14 billion. Asthma is now recognized as the leading cause of school and work absences, emergency room visits and hospitalizations. For sensitized children, exposure to antigens from dust mites, certain pets, and cockroaches has been associated with more severe asthma. There is a preponderance of evidence showing a dose-response

relationship between exposure and prevalence of asthma and allergies; some evidence also indicates that exposure to antigens early in life may predispose or hasten the onset of allergies and asthma. Dust mites have been identified as the largest trigger for asthma and allergies. Cockroach allergens appear to be excessive in 30–50 percent of inner-city housing and affect 5–15 percent of the population, whereas dust mites appear to be the dominant allergen in other environments.

Interventions known to have beneficial effects include the installation of impervious mattress and pillow covers, which can reduce allergen exposure by 90 percent. Other dust mite control measures include dehumidification, laundering bedding, and removal of carpets and other materials that accumulate dust and are difficult to clean (e.g., dust sinks). Cleaning carpets with tannic acid solution has also been demonstrated to greatly reduce dust mites. Asthma prevention program costs have been estimated at about \$500 per unit, which includes about \$150 for educational interventions.

Asbestos: Asbestos is a mineral fiber that has been used commonly in a variety of building construction materials and household products for insulation and as a fire-retardant. The Environmental Protection Agency (EPA) and the Consumer Product Safety Commission (CPSC) have banned most asbestos products. Manufacturers have also voluntarily limited uses of asbestos. Today, asbestos is most commonly found in older homes in pipe and furnace insulation materials, asbestos shingles, millboard, textured paints and other coating materials, and floor tiles. Elevated concentrations of airborne asbestos can occur when asbestos-containing materials (ACMs) are disturbed by cutting, sanding or other remodeling activities. Improper attempts to remove these materials can release asbestos fibers into the air in homes, increasing asbestos levels and endangering the people living in those homes. The most dangerous asbestos fibers are too small to be visible. After they are inhaled, they can remain and accumulate in the lungs. Asbestos can cause lung cancer, mesothelioma (a cancer of the chest and abdominal linings), and asbestosis (irreversible lung scarring that can be fatal). Most people with asbestos-related diseases were exposed to elevated concentrations on the job; some developed disease from exposure to clothing and equipment brought home from job sites. As with radon, dose-response extrapolations suggest that lower level exposures, as may occur when asbestos-containing building materials deteriorate or are disturbed, may also cause cancer.

Intact asbestos-containing materials are not a hazard; they should be monitored for damage or deterioration and isolated if possible. Repair of damaged or deteriorating ACMs usually involves either sealing (encapsulation) or covering (enclosure) it. Repair is usually cheaper than removal, but it may make later removal of asbestos more difficult and costly. Repairs should be done only by a professional trained and certified to handle asbestos safely and can cost from a few hundred to a few thousand dollars; removal can be more expensive.

Combustion products of heating and cooking appliances: Burning of oil, natural gas, kerosene, and wood for heating or cooking purposes can release a variety of combustion products of health concern. Depending upon the fuel, these may include carbon monoxide (a chemical asphyxiant), oxides of nitrogen (respiratory irritants), polycyclic aromatic hydrocarbons (e.g., the carcinogen benzo[a]pyrene), and airborne particulate matter (respiratory irritants). Carbon monoxide, an odorless gas, can be fatal. Nitrogen dioxide can damage the respiratory tract, and sulfur dioxide can irritate the eyes, nose and respiratory tract. Smoke and other particulates irritate the eyes, nose and throat, and can cause lung cancer.

Improper venting and poor maintenance of heating systems and cooking appliances can dramatically increase exposure to combustion products. Experts recommend having combustion heating systems inspected by a trained professional every year to identify blocked openings to flues and chimneys, cracked or disconnected flue pipes, dirty filters, rust or cracks in the heat exchanger, soot or creosote build-up, and exhaust or gas odors. Installing a carbon monoxide detector is also recommended; however, such a detector will not detect other combustion by-products.

Insect and Rodent pests: The observed association between exposure to cockroach antigen and asthma severity has already been noted above. In addition, cockroaches may act as vehicles to contaminate environmental surfaces with certain pathogenic organisms. Rodents can transmit a number of communicable diseases to humans, either through bites, arthropod vectors, or exposure to aerosolized excreta. In addition, humans can become sensitized to proteins in rodent urine, dander and saliva. Such sensitization may contribute to asthma severity among children. Insect and rodent infestation is frequently associated with substandard housing that makes it difficult to eliminate. Treatment of rodent and insect infestations often includes the use of toxic pesticides that may present hazards to occupants (see below). Integrated pest management (IPM) for rodents and cockroaches, which reduces the use of pesticides, is estimated to cost approximately \$150 per unit. IPM control measures include sealing holes and cracks, removing food sources and use of traps.

Lead: Exposure to lead, especially from deteriorating lead-based paint, remains one of the most important and best-studied of the household environmental hazards to children. Although blood lead levels have fallen nationally, a large reservoir of lead remains in housing. The most recent national survey, conducted from 1991–94, showed that nearly one million U.S. preschoolers still have elevated blood lead levels. Overall, the prevalence rate among all children under six years of age is 4.4 percent. Among low-income children living in older housing where lead-based paint is most prevalent, the rate climbs to 16 percent; and for African-American children living in such housing, it reaches 21 percent.

HUD estimates that 38 million dwellings have some lead-based paint, and that 26

million have significant lead-based paint hazards. Of those, about 5.7 million have young children and of those, about 1.6 million have household incomes under \$30,000 per year. LHC costs can range anywhere from \$500 to \$15,000 per unit. Corrective measures include paint stabilization, enclosure and removal of certain building components coated with lead paint, and cleanup and “clearance testing,” which ensures the unit is safe for young children.

Mold and moisture: An analysis of several pulmonary disease studies estimates that 25 percent of airways disease, and 60 percent of interstitial lung disease may be associated with moisture in the home or work environment. Moisture is a precursor to the growth of mold and other biological agents, which is also associated with respiratory symptoms. An investigation of a cluster of pulmonary hemosiderosis (PH) cases in infants showed PH was associated with a history of recent water damage to homes and with levels of the mold *Stachybotrys atra* (SA) in air and cultured surface samples. Associations between exposure to SA and “sick building” symptoms in adults have also been observed. Other related toxigenic fungi have been found in association with SA-associated illness and could play a role. For sensitive individuals, exposure to a wide variety of common molds may also aggravate asthma. Addressing mold problems in housing requires coordination among the medical, public health, microbiological, housing, and building science communities.

The cost of mold/moisture-related intervention work (e.g., IPM, clean and tune furnace, remove debris, vent clothes dryer, cover dirt floor with impermeable vapor barrier) is a few hundred dollars, unless major modification of the ventilation system is needed. For example, in Cleveland, mold interventions, including repairs to ventilation systems and basement flooring, in the most heavily contaminated homes range from \$500–\$5,000, with some costs also being dedicated to LHC simultaneously through its lead and asthma program.

Pesticide residues: According to the EPA, 75 percent of U.S. households used at least one pesticide product indoors during the past year. Products used most often are insecticides and disinfectants. Another study suggests that 80 percent of most people’s exposure to pesticides occurs indoors and that measurable levels of up to a dozen pesticides have been found in the air inside homes. The amount of pesticides found in homes appears to be greater than can be explained by recent pesticide use in those households; other possible sources include contaminated soil or dust that migrates in from outside, stored pesticide containers, and household surfaces that collect and then release the pesticides. Pesticides used in and around the home include products to control insects (insecticides), termites (termiteicides), rodents (rodenticides), molds and fungi (fungicides), and microbes (disinfectants). In 1990, the American Association of Poison Control Centers reported that some 79,000 children were involved in common household pesticide poisonings or exposures. In households with children under five years

of age, almost half stored at least one pesticide product within the reach of children. Exposure to chlorpyrifos (CP), a commonly used organophosphate insecticide, in the prenatal and early postnatal period may impair neurological development. While CP is a biodegradable pesticide, substantial persistence of CP in house dust has been demonstrated. Exposure to high levels of cyclodiene pesticides, commonly associated with misapplication, has produced various symptoms, including headaches, dizziness, muscle twitching, weakness, tingling sensations, and nausea. In addition, the EPA is concerned that cyclodienes might cause long-term damage to the liver and the central nervous system, as well as an increased risk of cancer.

There are available data on hazard evaluation methods and remediation effectiveness regarding pesticide residues in the home environment.

Radon progeny: The National Academy of Sciences estimates that approximately 15,000 cases of lung cancer per year are related to radon exposure. Epidemiologic studies of miners exposed to high levels of radon in inhaled air have defined the dose response relation for radon-induced lung cancer at high exposure levels. Extrapolation of these data has been used to estimate the excess risk of lung cancer attributable to exposure to radon gas at the lower levels found in homes. These estimates indicate that radon gas is an important cause of lung cancer deaths in the U.S. Excessive exposures are typically related to home ventilation, structural integrity and location.

Radon measurement and remediation methods are well developed, and the Environmental Protection Agency (EPA) recommends that every home be measured for radon. EPA estimates that materials and labor costs for radon reduction in an existing home are \$800–\$2,500. Including radon resistant techniques in new home construction costs \$350–\$500, and can save up to \$65 annually in energy costs, according to the EPA.

Take-home hazards from work/hobbies and work at home: When the clothing, hair, skin, or shoes of workers become contaminated with hazardous materials in the workplace, such contaminants may inadvertently be carried to the home environment and/or an automobile. Such “take-home” exposures have been demonstrated, for example, in homes of lead-exposed workers. In addition, certain hobbies or workplaces located in the home may provide an especially great risk of household contamination.

Control methods include storing and laundering work clothes separately, and showering and changing clothes before leaving work or immediately after arriving home. Once a home becomes contaminated, cleaning floors and contact surfaces and replacing furnishings may be necessary to reduce exposures.

Unintentional injuries/fire: Unintentional injury is now the leading cause of death and disability among children younger than 15 years of age. In 1997, nearly 7 million persons in the U.S. were disabled for at least one full day by unintentional injuries

received at home. During the same year, 28,400 deaths were attributable to unintentional home injuries, of which 1800 occurred among children 0–4 years of age. Among young children, three types of events accounted for more than 75 percent of deaths: fires/ burns; drowning; and mechanical suffocation. Falls and poisoning are the next most common causes of death.

Home visitation protocols have been shown to be effective in reducing exposure to such hazards. The “add-on” cost of injury prevention measures, when combined with other housing interventions are estimated at about \$100 per unit. This includes the cost of some injury prevention devices (e.g., smoke alarms, electrical socket covers, etc.).

Appendix B—Relevant Publications and Guidelines

To secure any of the documents listed, call the telephone number provided. If you are a hearing-or speech-impaired person, you may reach the telephone numbers via TTY by calling the toll-free Federal Information Relay Service at 1–800–877–8339. A number of these references are provided on HUD’s CD, “Residential Lead Desktop Reference, 3rd Edition.” This CD can be obtained at no charge by calling the National Lead Information Clearinghouse’s (NLIC’s) toll free number, 1–800–424–LEAD. Several of these references can be downloaded from the Internet without charge from the HUD Office of Healthy Homes and Lead Hazard Control’s Internet site, www.hud.gov/offices/lead.

Regulations

1. *Worker Protection*: The two Occupational and Safety Administration (OSHA) publications listed below can be purchased by calling either OSHA Regulations at 202–693–1888 (OSHA Regulations) (this is not a toll free number) or the Government Printing Office (GPO) at 202–512–1800 (this is not a toll-free number). If you are a hearing-or speech-impaired person, you may reach these telephone numbers via TTY by calling the toll-free Federal Information Relay Service at 1–800–877–8339.

(a) General Industry Lead Standard, 29 CFR 1910.1025 (Document Number 869022001124). This document can be downloaded without charge from the OSHA Web site at: www.osha-slc.gov/OshStd_data/1910_1025.html;

(b) Lead Exposure in Construction, 29 CFR 1926.62, and appendices A, B, C, and D (Document Number 869022001141). This document can be downloaded without charge from the OSHA Web site at: www.osha-slc.gov/OshStd_data/1926_0062.html.

2. *Waste Disposal*. A copy of the EPA regulations at 40 CFR parts 260–268 can be purchased by calling 1–800–424–9346, or, from the Washington, DC, metropolitan area, 1–703–412–9810 (not a toll-free number). If you are a hearing- or speech-impaired person, you may reach this telephone number via TTY by calling the toll-free Federal Information Relay Service at 1–800–

877–8339. The regulations can also be downloaded without charge from the EPA Web site at www.epa.gov/docs/epacfr40/chapt-I.info/subch-I/htm.

3. Lead.

(a) Requirements for Lead-Based Paint Activities in Target Housing and Child-Occupied Facilities; Final Rule: 40 CFR part 745 (EPA) (Lead Hazard Standards, Work Practice Standards, EPA and State Certification and Accreditation Programs for those engaged in lead-based paint activities) can be purchased by calling the Toxic Substances Control Act (TSCA) Hotline at 202–554–1404 (this is not a toll-free number). If you are a hearing- or speech-impaired person, you may reach this telephone number via TTY by calling the toll-free Federal Information Relay Service at 1–800–877–8339. The rule and guidance can be downloaded from the Internet without charge at www.epa.gov/lead/.

(b) 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 B through R, published September 15, 1999, at **Federal Register** pages 50201 through 50231 (HUD) can be purchased by calling NLIC’s toll-free number (800–424–LEAD) or downloaded without charge from the HUD Web site at www.hud.gov/offices/lead.

(c) Requirements for Disclosure of Information Concerning Lead-Based Paint in Housing, 24 CFR Part 35, Subpart A (HUD, Lead-Based Paint Disclosure Rule) by calling the NLIC’s toll free number (800–424–LEAD). If you are a hearing- or speech-impaired person, you may reach this telephone number via TTY by calling the toll-free Federal Information Relay Service at 1–800–877–8339. The rule, guidance, pamphlet and disclosure formats can be downloaded from the HUD Web site at www.hud.gov/offices/lead.

(d) U.S. Environmental Protection Agency. Lead; Identification of Dangerous Levels of Lead; Final Rule at 66 FR 1205–1240, January 5, 2001. This rule and guidance can be obtained without charge by calling the NLIC’s toll free number (800–424–LEAD) or by calling the TSCA at: 202–554–1404 (not a toll-free number). The rule and guidance can be downloaded from the EPA Web site at 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. These guidelines can be purchased by calling 800–245–2691 toll-free. If you are a hearing- or speech-impaired person, you may reach this telephone number via TTY by calling the toll-free Federal Information Relay Service at 1–800–877–8339. The Guidelines can be downloaded from the HUD Web site without charge at www.hud.gov/offices/lead.

2. Preventing Lead Poisoning in Young Children; Centers for Disease Control, October 1991. These guidelines can be obtained without charge by calling the CDC toll free number at 888–232–6789. If you are a hearing- or speech-impaired person, you may reach this telephone number via TTY by calling the toll-free Federal Information Relay Service at 1–800–877–8339. The guidelines can also be downloaded from the HUD Web site without charge at www.hud.gov/offices/lead.

3. Screening Young Children for Lead Poisoning: Guidance for State and Local Public Health Officials, November 1997; Centers for Disease Control and Prevention (CDC). These guidelines can be obtained without charge by calling the CDC toll free number at 888–232–6789 or they can be downloaded from the HUD Web site at www.hud.gov/offices/lead.

Reports and Articles

1. Putting the Pieces Together: Controlling Lead Hazards in the Nation’s Housing, (Summary and Full Report); HUD, July 1995. A copy of this summary and report can be purchased by calling 800–245–2691 toll free or downloaded from the HUD Web site without charge at www.hud.gov/offices/lead.

2. The Healthy Homes Initiative: A Preliminary Plan (Summary and Full Report); HUD, July 1995. A copy of this summary and report can be downloaded from the HUD Web site without charge at www.hud.gov/offices/lead.

3. Institute of Medicine. Indoor Allergens. Assessing and Controlling Adverse Health Effects. National Academy Press. Washington, DC 1993.

4. Mott L., Our Children at Risk. Natural Resources Defense Council. Washington, DC 1997. Can be ordered from the Internet from www.nrdc.org.

5. Rom W.N., Ed. Environmental and Occupational Medicine. Little, Brown and Co., Boston. 1992.

6. President’s Task Force on Environmental Health Risks and Safety Risks to Children. Asthma and The Environment: An Action Plan to Protect Children. Washington, DC 1999. Eliminating Childhood Lead Poisoning: A Federal Strategy Targeting Lead Paint Hazards. Washington, DC 2000. Can be downloaded from the Internet without charge from www.epa.gov/children.

7. Morbidity and Mortality Weekly Report (MMWR). Update: Blood Lead Level—United States, 1991–1994. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. February 21, 1997. Vol. 46, No 7.

8. Jacobs, D.E., R.P. Clickner, J.Y. Zhou, *et al.*, 2002. Prevalence of Lead-Based Paint in U.S. Housing. *Env. Health Persp.* 110(10): A599–A606.

9. Galke, W., S. Clark, J. Wilson, *et al.*, 2001. Evaluation of the HUD lead hazard control grant program: Early overall findings. *Env. Res.* 86, 149–156.

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APPENDIX C - Healthy Homes and Lead-Related Research

Examples of Healthy Homes Research

No.	Title	Description
1	Urban Mold and Moisture Control	Assess the efficacy of low cost interventions to address mold and moisture problems as measured by subsequent reductions in fungal levels in environmental samples and reduction in asthma morbidity. Also includes development and validation of a visual assessment tool.
2	Improving the Lead Dust Final Clean Protocol to Reduce Cockroach Allergen Exposure	Determine effectiveness of modified cleaning protocols in reducing household contamination by cockroach allergen; evaluate polyclonal immunoassay for measuring cockroach allergens.
3	Healthy Public Housing	Document environmental health and safety hazards affecting public housing residents; evaluate remedial measures and quantify economic benefits of interventions
4	Head Start Healthy Homes Initiative	Evaluate home visitation with low cost interventions to Head Start families as a means of reducing health risks for asthma, lead poisoning and injury.
5	Baseline Study of Fungi in Urban Homes With No Known Moisture Problems	Identify fungal species and concentrations in samples of air and settled dust in homes with no known mold and moisture problems.
6	Use of GIS Predictive Modeling to Identify Homes at High Risk for Environmental Health Hazards	A GIS-based predictive modeling approach, built on an ongoing GIS modeling project for lead hazards, will be used to identify homes that are likely to have multiple environmental health hazards.
7	A Portable Instrument to Detect, Identify and Quantify Mold in Homes	The objective is to develop a relatively low cost, portable instrument to perform on-site evaluation of airborne concentrations of specific fungal species as well as estimates of total fungal concentration.
8	Evaluation of a Low Cost Method for Identification and Assessment of Mold Problems in Housing	The objective is to conduct laboratory and field testing of a new instrument for measuring the release of mold spores from surfaces.
9	Novel Markers of Fungal Exposure in Homes and Their Relationship to Respiratory Symptoms in Children in New York City	This research is evaluating the utility of fungal exposure assessment through immunoassay measurement of fungal extracellular polysaccharides (EPS) in house dust and fungal EPS specific immunoglobulin G (IgG) in the serum of participants to identify relationships between mold exposure and respiratory symptoms.

Examples of NOFA-Funded Lead Research

No.	Title	Description
1	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.
2	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".
3	Developing a Method for Collecting and Analyzing Vacuum Dust Samples for Lead Using Field Portable XRF	This research involves the development and assessment of a field method for collecting residential dust samples and analyzing them for lead using a field portable XRF analyzer.
4	The Use of Biosolids to Reduce Soil-lead Hazards	The study involves the application of treated biosolids to lead-contaminated urban yards with subsequent assessment of the effectiveness of the treatment in reducing lead concentration and bioavailability.
5	Assessing the Effectiveness of a State Law Requiring Lead Hazard Control Treatments in pre-1950 Rental Housing	The project is assessing the effectiveness of low cost treatments in reducing residential dust-lead hazards in rental housing.

APPENDIX D
CHECKLIST AND SUBMISSION TABLE OF CONTENTS
HEALTHY HOMES AND LEAD TECHNICAL STUDIES GRANT PROGRAM

The following checklist is provided to ensure you have submitted all required items to receive consideration for funding. You must assemble the application in the order shown below and note the corresponding page number where the response is located. **You must include this checklist and submission table of contents with your application.**

<input type="checkbox"/>	Transmittal Letter (one-page limit)	Cover page
<input type="checkbox"/>	Applicant Abstract (limited to 2-pages; does not count towards 25-page limit)	_____
<input type="checkbox"/>	Checklist and Submission Table of Contents	_____
	Application Forms (to be included in Appendix 3)	_____
<input type="checkbox"/>	HUD Form 424	_____
<input type="checkbox"/>	Standard Form 424B (Assurances/Non-Construction Programs)	_____
<input type="checkbox"/>	HUD 424C (Budget Summary for Competitive Grant Programs)	_____
<input type="checkbox"/>	Budget Summary (Federal Share and Matching)	_____
<input type="checkbox"/>	HUD 2880 (Disclosure and Update Report)	_____
<input type="checkbox"/>	HUD 2990 (Certification of Consistency with the EZ/EC Strategic Plan)	_____
<input type="checkbox"/>	HUD 2992 (Certification regarding Debarment and Suspension)	_____
<input type="checkbox"/>	HUD 50070 (Certification for a Drug-Free Workplace)	_____
<input type="checkbox"/>	HUD 50071 (Certifications of Payments to Influence Federal Transactions)	_____
<input type="checkbox"/>	Form SF-LLL (Disclosure of Lobbying Activities) (Required)	_____
	<input type="checkbox"/> Form SF-LLL (Not required; see Appendix B of the General Section of the SuperNOFA)	_____
<input type="checkbox"/>	HUD Logic Model Form	_____
<input type="checkbox"/>	Race and Ethnicity Form	_____
	Rating Factor Response (25-page limit on entire narrative)	_____
<input type="checkbox"/>	1. Capacity of the Applicant and Relevant Organizational Experience	_____
<input type="checkbox"/>	2. Need/Extent of the Problem	_____
<input type="checkbox"/>	3. Soundness of Approach	_____
<input type="checkbox"/>	4. Leveraging Resources	_____
<input type="checkbox"/>	5. Achieving Results and Program Evaluation	_____
	Appendices	_____
<input type="checkbox"/>	Appendix 1 – Required materials in support of the Rating Factors (e.g., resumes of key personnel, organizational chart, letters of commitment) arranged in order by Rating Factor (three-page limit on resumes; these resumes do not count as part of the page limit).	_____
<input type="checkbox"/>	Appendix 2 – Optional materials in support of the Rating Factors, arranged in order by Rating Factors (e.g., maps, letters of support, etc.) (20-page limit).	_____
<input type="checkbox"/>	Appendix 3 – Materials relating to the forms or budget materials (see Application Forms, above).	_____
<input type="checkbox"/>	HUD 2993 (Acknowledgment of Application Receipt)	_____
<input type="checkbox"/>	HUD 2994 (Client Comments and Suggestions) (Optional)	_____

Appendix E

This appendix to this NOFA lists the standard forms, certifications and assurances used by the programs that are part of this NOFA. Listed forms are located in Appendix B of the General Section of the SuperNOFA.

The following forms are to be used for the Programs listed in this NOFA

- (1) Form HUD-424
- (2) Form HUD-424 B
- (3) Form HUD-424 C
- (4) Form HUD-424 CBW
- (5) Form HUD Logic Model Form
- (6) Application Checklist and Submission Table of Contents
- (7) Ethnicity and Race Data

HUD has consolidated many of its application forms into a single HUD-424 form. The new HUD-424 consolidates budget-reporting forms for both construction and non-construction projects into a single form and eliminates having to have the following separate certifications: Certification for a Drug-Free Workplace (HUD-50070), the Certification of Payments to Influence Federal Transactions (HUD-50071), and the Certification Regarding Debarment and Suspension (HUD-2992).

New form HUD-424 replaces SF-424 and HUD-424 M

HUD-424 B replaces SF-424 B and D, and HUD-50070, 50071 and 2992.

HUD-424 C and CB replaces SF-424 A and C

The HUD-424 CBW is added as a common detailed Budget Worksheet and replaces various budget worksheets used throughout the Department.

Administrative costs that may be applicable to the programs included in this NOFA are discussed below:

Administrative Costs

I. Purpose

The intent of this HUD grant program is to allow the Grantee to be reimbursed for the reasonable direct and indirect costs, subject to a top limit, for overall management of the grant. In most instances the grantee, whether a State or a local government, principally serves as a conduit to pass funding to sub-grantees, which are to be responsible for the conducting lead-hazard reduction work. Congress set a top limit of ten percent of the total grant sum for the grantee to perform the function of overall management of the grant program, including passing on funding to sub-grantees. The cost of that function, for the purpose of this grant, is defined as the "administrative cost" of the grant, and is limited to ten percent of the total grant amount. The balance of ninety percent or more of the total grant sum is reserved sub-grantees or other direct-performers of lead-hazard identification and reduction work. Lead hazard identification and reduction includes, but is not necessarily limited to outreach, training, enrollment, lead paint inspection/risk assessments, interim controls, hazard abatement, clearance documentation, blood lead testing, and public education.

II. Administrative Costs: What They Are Not

For the purposes of this HUD grant program for States and local governments to

provide support for the evaluation and reduction of lead-hazards in low- and moderate-income, private target housing, the term "administrative costs" should not be confused with the terms "general and administrative cost," "indirect costs," "overhead," and "burden rate." These are accounting terms usually represented by a government-accepted standard percentage rate. The percentage rate allocates a fair share of an organization's costs that cannot be attributed to a particular project or department (such as the chief executive's salary or the costs of the organization's headquarters building) to all projects and operating departments (such as the Fire Department, the Police Department, the Health Department or this program). Such allocated costs are added to those projects' or departments' direct costs to determine their total costs to the organization.

III. Administrative Costs: What They Are

For the purposes of this HUD grant program, "Administrative Costs" are the grantee's allowable direct costs for the overall management of the grant program plus the allocable indirect costs. The allowable limit of such costs that can be reimbursed under this program is ten (10) percent of the total grant sum. Should the grantee's actual costs for overall management of the grant program exceed ten percent of the total grant sum, those excess costs shall be paid for by the grantee. However, excess costs paid for by the grantee may be shown as part of the requirement for cost-sharing funds to support the grant.

IV. Administrative Costs: Definition

A. General

Administrative costs are the allowable, reasonable, and allocable direct and indirect costs related to the overall management of the HUD grant for lead-hazard reduction activities. Those costs shall be segregated in a separate cost center within the grantee's accounting system, and they are eligible costs for reimbursement as part of the grant, subject to the ten percent limit. Such administrative costs do not include any of the staff and overhead costs directly arising from specific sub-grantee program activities eligible under Section III(B) of this program section of this SuperNOFA, because those costs are eligible for reimbursement under a separate cost center as a direct part of project activities.

The grantee may elect to serve solely as a conduit to sub-grantees, who will in turn perform the direct program activities eligible under Section III(B) of this program section of this NOFA, or the grantee may elect to perform all or a part of the direct program activities in other parts of its own organization, which shall have their own segregated, cost centers for those direct program activities. In either case, not more than 10 percent of the total HUD grant sum may be devoted to administrative costs, and not less than 90% of the total grant sum shall be devoted to direct program activities. The grantee shall take care not to mix or attribute administrative costs to the direct project cost centers.

B. Specific

Reasonable costs for the grantee's overall grant management, coordination, monitoring, and evaluation are eligible administrative costs. Subject to the ten percent limit, such costs include, but are not limited to, necessary expenditures for the following goods, activities and services:

(1) Salaries, wages, and related costs of the grantee's staff, the staff of affiliated public agencies, or other staff engaged in grantee's overall grant management activities. In charging costs to this category the recipient may either include the entire salary, wages, and related costs allocable to the program for each person whose primary responsibilities (more than 65% of their time) with regard to the grant program involve direct overall grant management assignments, or the pro rata share of the salary, wages, and related costs of each person whose job includes any overall grant management assignments. The grantee may use only one of these two methods during this program. Overall grant management includes the following types of activities:

- (a) Preparing grantee program budgets and schedules, and amendments thereto;
 - (b) Developing systems for the selection and award of funding to sub-grantees and other sub-recipients;
 - (c) Developing suitable agreements for use with sub-grantees and other sub-recipients to carry out grant activities;
 - (d) Developing systems for assuring compliance with program requirements;
 - (e) Monitoring sub-grantee and sub-recipient activities for progress and compliance with program requirements;
 - (f) Preparing presentations, reports, and other documents related to the program for submission to HUD;
 - (g) Evaluating program results against stated objectives;
 - (h) Providing local officials and citizens with information about the overall grant program; however, a more general education program, helping the public understand the nature of lead hazards, lead hazard reduction, blood-lead screening, and the health consequences of lead poisoning is a direct project support activity);
 - (i) Coordinating the resolution of overall grant audit and monitoring findings; and
 - (j) Managing or supervising persons whose responsibilities with regard to the program include such assignments as those described in paragraphs (a) through (i).
- (2) Travel costs incurred for official business in carrying out the overall grant management;
- (3) Administrative services performed under third party contracts or agreements, for services directly allocable to grant management such as: legal services, accounting services, and audit services;
- (4) Other costs for goods and services required for and directly related to the overall management of the grant program; and including such goods and services as telephone, postage, rental of equipment, renter's insurance for the program management space, utilities, office supplies, and rental and maintenance (but not purchase) of office space for the program.
- (5) The fair and allocable share of grantee's general costs that are not directly attributable

to specific projects or operating departments such as salaries, office expenses and other related costs for local officials (*e.g.*, mayor and city council members, etc.), and expenses for a city's legal or accounting

department which are not charged back to particular projects or other operating departments. If a grantee has an established burden rate, it should be used; if not, the grantee shall be assigned a negotiated

provisional burden rate, subject to final audit.

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