

LEAD UPDATE 2002

North Carolina Health Hazards Control Unit *N.C. Department of Health and Human Services*

January 2002

LEAD-BASED PAINT HAZARD MANAGEMENT PROGRAM

The North Carolina Health Hazards Control Unit (HHCU) is the state agency responsible for administering state and federal regulations for certifying individuals and firms conducting lead-based paint abatement activities, accrediting lead training providers, and issuing lead abatement permits for target housing and child-occupied facilities.

The HHCU offers consultation on lead-based paint issues, provides educational materials, and enforces the Lead-Based Paint Hazard Management Program (LHMP) Rules through on-site inspections and training course audits. The goal of the HHCU is to prevent lead poisoning in children and adults through education and safe work practices. The HHCU continues to work with the regulated community, the public, and other state agencies to reach that goal. If you have any questions about this lead update or need technical assistance, please contact us at (919) 733-0820.

LEAD CERTIFICATION

The North Carolina Lead-Based Paint Hazard Management Program (LHMP) Rule 15A NCAC 19C .0802 deals with certification of individuals. Please note, in accordance with Rule .0802, the training courses attended by an individual applying for lead certification must be accredited by the LHMP or accredited by a state, tribe or territory that has a written reciprocating agreement with the Program.

An applicant for lead certification must have attended an accredited training course within twelve months of the date of application for both the initial certification and renewal certifications.

Certification is granted for one year from the date the certification is issued. For example: an individual successfully completes an initial Lead Supervisor course in January 2001, applies for certification in February 2001, sits for the certification exam in March 2001, and is issued the certification in March 2001. The certification would then expire one year later, in March 2002. To renew certification, training must be taken within the twelve months prior to applying. If this individual applies for renewal of certification by January 2002, the training class would still be within 12 months, and certification would be renewed without requiring a refresher course. However, the individual would have to take a refresher course prior to the next renewal.

If the time between courses exceeds 24 months, the individual must successfully complete an initial course before certification could be issued.

When applying for lead certification, it is advisable to write separate checks for each item (e.g., lead firm certification and individual certification applications). If several applications are sent in together with one check and there is missing information on one of the applications, our accounting system prohibits us from processing any of the applications in that group. However, if the applications have separate checks, they can be processed individually.



The HHCUC administers the exam on regularly scheduled days. We administer the lead certification exam in Raleigh, North Carolina, every other Monday. We require the submission and approval of a completed certification application prior to scheduling an applicant to sit for the exam. Once approved, the applicant is scheduled for an exam at least two weeks in advance in order to give the applicant adequate time to adjust his/her schedule. After passing the exam, the applicant should then allow a week for delivery of the lead photo identification card and approval letter.

Therefore, individuals who anticipate needing lead certification should not wait until the last minute to apply, as it may take three weeks or more to complete the process.



PLACING PERMITS ON HOLD

When undertaking a lead abatement project, owners and contractors can encounter many delays, including resident relocation, moving residents' belongings, and working with local governments, just to name a few.

When submitting an application for lead-based paint abatement to the HHCUC, all information must be completed on the permit application.

However, if the start date changes or becomes unknown due to circumstances beyond the contractor's control, the permit may be placed "on hold" prior to the start date. To request placing a project "on hold," a letter from the owner or owner's representative must be submitted to the HHCUC explaining why this step is necessary.

Permits may remain on-hold for a maximum period of six months. After this time, the permit will expire, and the contractor will be required to submit a new permit application.

ON-SITE DOCUMENTATION

Lead abatement permits must be completely filled out and submitted to the HHCUC ten (10) working days prior to starting lead abatement activities. If any information changes on the permit between the time of submittal and the completion of the project, a revision is required.

The LHMP Rule 15A NCAC 19C .0808 requires that the HHCUC receive a copy of all revisions for lead abatement permits and that a copy of all the revisions be at the job site during any lead abatement activity.

Additionally, the LHMP Rule .0808 also requires the following information to be on site and available for review: (1) a copy of the lead abatement permit; (2) all revisions; (3) photo identification cards; (4) occupant protection plans; and (5) if generated, a copy of the lead abatement design, risk assessment and inspection report.

Failure to have the required documentation on-site may result in enforcement action.

OCCUPANT PROTECTION PLANS

The Environmental Protection Agency (EPA) regulations 40 CFR 745 Subpart L, subsection .227 (e)(5) requires a written occupant protection plan (OPP) for all lead abatement projects. Additionally, the North Carolina Lead-Based Paint Hazard Management Program (LHMP) Rule, 15A NCAC 19C .0808 requires the OPP to be "on site" at all lead-based paint abatement projects.

The OPP must be completed before the abatement project begins, and shall be unique to each residential dwelling and/or child-occupied facility. The OPP must address what measures and management procedures will be taken to protect the occupants from exposure to lead-based paint hazards.

The NC LHMP Rule 15A NCAC 19C .0801(a)(6) further defines the OPP by allowing the certified lead supervisor to prepare an OPP when there are fewer than five dwellings. When five or more dwellings are involved, a certified lead designer must prepare the OPP.

To assist individuals with meeting the intent of the OPP, the HHCU is providing a list of basic information that should be addressed in the OPP by the certified supervisor or designer. This information is not inclusive; additional items should be added as necessary. Certified lead supervisors and designers preparing OPPs are strongly encouraged to address each of the following items (**minimum criteria**):

- (1) The contractor or operator controlling the project is responsible for notifying the occupants about the lead-based paint abatement project.
- (2) If the occupants leave the dwelling during abatement, there must be a contingency plan if clearance fails and the occupants cannot reenter the dwelling.
- (3) If the occupants remain in the dwelling during abatement and a breach in containment occurs, measures must be taken to address the situation and protect the occupants.
- (4) The occupants' personal belongings inside/outside of the dwelling must be protected.
- (5) Special needs for blind or handicapped occupants must be addressed.
- (6) An emergency escape plan for the occupants who remain in the dwelling during abatement must be prepared.
- (7) The occupants' pets located inside/outside the dwelling must be protected.
- (8) Playground equipment, outdoor furniture, etc., must be protected.
- (9) Soil in gardens and children's play areas must be protected.
- (10) The contractor must keep neighborhood children from entering the abatement work area.
- (11) The OPP shall include the preparer's signature and certification number.

HEPA VACUUMS

Whether conducting lead abatement activities or lead safe work practices, contractors should only use a "TRUE HEPA" vacuum cleaner. A true HEPA vacuum has a few features that most vacuum cleaners do not have, including:

- (1) A HEPA filter that is individually tested and rated as 99.97 % effective and capable of collecting lead dust down to 0.3 microns in size;
- (2) "O" rings or seals to prevent leakage around connecting points; and
- (3) Manufacturer specifications stating that the HEPA vacuum is designed to collect lead dust.

In today's vacuum cleaner market, a lot of the vacuum cleaners are advertised as containing a HEPA filter or even a TRUE HEPA filter. Before purchasing a HEPA vacuum cleaner, carefully read the instruction booklet to see if the vacuum cleaner is specifically designed to collect lead dust.



LEAD-BASED PAINT ABATEMENT GUIDANCE DOCUMENT

In an attempt to ensure that lead-based paint abatement activities are conducted safely and to reduce children's exposure to lead, the HHCU produced a lead-based paint abatement work practice guidance document. This guidance document, dated August 1, 2001, lists specific work practices that are expected to be adhered to when performing lead-based paint abatement in North Carolina.

You can obtain an electronic copy of the "Guidance for Lead-Based Paint Abatement Work Practices" on our Lead-Based Paint Hazard Management Program website at www.epi.state.nc.us/epi/lead/lhmp.html.

TRAINING REQUIREMENTS: EPA VS. OSHA

The HHCU is concerned that lead-based paint abatement contractors are not receiving all of the training required by OSHA prior to conducting abatement activities. The two days of worker training and four days of supervisor training that EPA requires prior to certification do not include complete explanations of important OSHA topics.

Workers and supervisors are required to receive training in accordance with paragraph (1)(2) of OSHA 29 CFR Part 1926.62, Lead Exposure in Construction; Interim Final Rule. Initial training shall be provided prior to the time of job assignment and annually thereafter for each employee who is subject to lead exposure(s) at or above the action level. The employer is responsible for providing this training at no cost to the employee(s).

The employer shall assure that the training includes the following:

- (1) The content of the OSHA standard and its appendices;
- (2) The specific nature of the operations which could result in exposure to lead above the action level;
- (3) The purpose, proper selection, fitting, use, and limitations of respirators;
- (4) The purpose and a description of the medical surveillance program and the medical removal protection program, including information concerning the adverse health effects associated with excessive exposure to lead (with particular attention to the adverse reproductive effects on both males and females and hazards to the fetus and additional precautions for employees who are pregnant);
- (5) The engineering controls and work practices associated with the employee's job assignment, including training of employees to follow relevant good work practices described in 29 CFR 1926.62, Appendix B;
- (6) The contents of any compliance plan in effect;

- (7) Instructions to employees that chelating agents should not routinely be used to remove lead from their bodies and should not be used at all except under the direction of a licensed physician; and
- (8) The employee's right of access to records under 29 CFR 1910.20.

OSHA recently inspected a lead-based paint abatement project and found the respiratory protection to be inadequate, resulting in the elevated blood lead levels of several of the workers. After interviewing several employees, this lack of respiratory protection was found to be a direct result of insufficient OSHA training.

OSHA requires that the workers be supplied with a high level of respiratory protection until air monitoring indicates that they can downgrade to a lower level.

The supervisors at the inspected project had selected negative-pressure half-face respirators for the workers, and then conducted air monitoring after the workers began the project. The air monitoring results indicated that the workers should be using supplied-air respirators, but these results were not communicated to the workers, and the workers were not provided with the correct respirators at the correct time.

This is only one example of the many reasons why it is extremely important to provide the required OSHA training to employees.

BLOOD LEAD SAMPLING

Adult blood lead samples must be analyzed by a lab approved by OSHA in order to meet the medical monitoring requirements for lead exposure in 29 CFR 1926.62.

When conducting analysis for lead in blood, the lab should provide two separate results. The first result would be the total blood lead and the second result would be based upon the zinc protoporphyrin (ZPP) test, which is used to determine if an individual's lead concentration is either increasing or decreasing. To obtain more information about OSHA-approved labs and blood lead sampling call 1-800-LABOR-NC.



ENCAPSULATION

The use of encapsulants is a popular lead-based paint abatement method. However, if not used properly, encapsulation may not be effective in eliminating the lead-based paint hazards.

Before an encapsulant is used, a determination must be made as to whether an encapsulant is suitable for the area being abated. Encapsulants can not be used on friction or impact surfaces, metal surfaces, or areas with deteriorated substrates. For these surfaces, another abatement method must be selected.

When applying encapsulants, it is imperative to follow the manufacturer's specifications. Proper surface preparation, including cleaning of the substrate, removal of loose paint and patch testing, are necessary to ensure the abatement method will be successful. A patch test evaluates the encapsulant on a small area of the painted surface prior to the start of the work. If an area fails the patch test, another abatement method should be selected.

NEW EPA CLEARANCE LEVELS

On January 5, 2001, EPA issued the final regulation under section 403 of the Toxic Substances Control Act (TSCA), as amended by the Residential Lead-Based Paint Hazard Reduction Act of 1992, also known as "Title X," to establish standards for lead-based paint hazards in most pre-1978 housing and child-occupied facilities. The regulations became effective on March 6, 2001.

The regulations lowered the clearance levels for lead-based paint abatement projects. The new clearance levels for lead in dust are 40 $\mu\text{g}/\text{ft}^2$ for floors, 250 $\mu\text{g}/\text{ft}^2$ for interior window sills, and 400 $\mu\text{g}/\text{ft}^2$ for window troughs. Properties that undergo abatement must pass clearance according to the work practice standards for abatement found at 40 CFR 745.227.

Additionally, EPA has more clearly defined lead-based paint hazards, in an attempt to move the focus away from the mere presence of lead-based paint to the presence of lead-based paint hazards. This regulation establishes hazard standards for residential lead-based paint, leaded dust, and lead in soil.

INTERESTING STUDIES

Environmental Health Perspectives, Volume 108 Number 5: 452-456, 2000, has an interesting article about lead dust concentrations on walls and ceilings following window replacement or surface preparation for paint stabilization. The title of the study is "A Pilot Study Examining Changes in Dust Lead Loading on Walls and Ceilings after Lead Hazard Control Interventions."

Applied Occupational and Environmental Hygiene, Volume 16(6): 671-678, 2001, has an article about short-term high lead exposures that would be missed during full-shift sampling. The title of the study is "Task-Specific Lead Exposure During Residential Lead Hazard Reduction Projects."

WEB SITES OF INTEREST

Listed below are several web sites containing current and useful information about lead. This list is not all-inclusive.

N.C. Division of Public Health lead homepage
www.epi.state.nc.us/epi/lead.html

N.C. Department of Environment and Natural Resources – Environmental Health Services
www.deh.enr.state.nc.us/ehs/ehs.htm

Housing and Urban Development
www.hud.gov/offices/lead/

Environmental Protection Agency
www.epa.gov/lead/

Occupational Safety and Health Administration
www.osha-slc.gov/SLTC/lead

American Industrial Hygiene Association
www.aiha.org

National Center for Healthy Housing
www.centerforhealthyhousing.org

The Lead Listing
www.leadlisting.org

Alliance to End Childhood Lead Poisoning
www.aeclp.org

National Institute for Occupational Safety & Health
www.cdc.gov/niosh/

DON'T MAKE THESE MISTAKES!

Read the following actual scenarios and beware of the additional hazards and expense that can be generated in improperly conducted abatement activities!

In the first scenario, a lead abatement contractor did not turn off the HVAC unit while conducting lead abatement activities inside a house. Since the air conditioner was on during the lead abatement activities, lead dust was transported into the duct system. Upon identifying the problem, the certified risk assessor had the abatement contractor clean the inside of all of the air supplies and returns. The risk assessor then conducted a second clearance. If the HVAC unit was turned off and properly sealed before starting lead abatement activities, this additional cleaning and cost for clearance could have been avoided.

In the second case, a lead abatement contractor was power-washing lead-based paint off the exterior of an apartment in an uncontrolled manner. Improper use of this method caused additional contamination to the resident's yard and resulted in additional time and expense to properly clean the entire yard.

LEAD SAFE WORK PRACTICES: *Training for Interim Controls*

The North Carolina Department of Environment and Natural Resources, Children's Environmental Health Branch, can provide training for lead-safe work practices and specialized cleaning techniques. This training is for property managers and owners who need to know how to conduct interim controls in properties containing lead-based paint. If you are interested in obtaining this training, please contact Claudia Rumpf-Wright at (919) 715-8497 or toll-free, 1-888-774-0071.

LEAD SAMPLING KITS OR ELLAP LABS?

The use of "chemical test kits" is not currently allowed when conducting inspections or risk assessments to determine the presence of lead-based paint and/or lead-based hazards. The chemical test kits are problematic in that the kits can provide false positive or false negative results.

Therefore, a North Carolina certified inspector/risk assessor should use either an XRF or take samples of paint chips and submit the samples to an accredited laboratory for analysis.

When submitting samples of lead in dust, soils, or paint chips to a laboratory, EPA requires that the samples be submitted to a lab that participates in the Environmental Lead Laboratory Accreditation Program (ELLAP).

The American Industrial Hygiene Association (AIHA) is responsible for keeping a list of ELLAP labs. You can obtain a list of these labs by contacting AIHA at (703) 849-8888.

CONTACT THE HHCU

If you need to contact the HHCU for technical assistance, please call (919) 733-0820. Our staff will be happy to assist you. When sending mail to our Program, please use the correct mailing address.

For regular mail delivery, use:

**NC DHHS
Division of Public Health
Health Hazards Control Unit
1912 Mail Service Center
Raleigh, NC 27699-1912**

For overnight delivery, please use:

**NC DHHS
Health Hazards Control Unit
Room 2A-210, 2nd floor
2728 Capital Blvd.
Raleigh, NC 27604**

