Lead Paint Action Team Progress Report

Date: June 30, 2008

Name of Action Team: Lead Paint Action Team

Team Leader(s): Maggie Theroux, Region 1

Champion: Ira Leighton, DRA, Region 1

Current Team Members: Jim Bryson or Bob Carr, R1 Lead Program; David Turpin, Region 5 Lead Coordinator; Jackie Mosby, OPPT, National Program Chemicals Division (NPCD); Ron Morony, OPPT, NPCD; Dan Reinhart, OPPT, NPCD; Dennis Utterback, ORD Office of Science Policy, Sharon Harper, ORD, RTP; Gene Pinzer, Program Management and Assurance Division, HUD Office of Healthy Homes and Lead Hazard Control**;** Barry Brooks, Public Health Advisor, Centers for Disease Control, Lead Poisoning Prevention Branch;Joanna Matheson, Toxicologist, U.S. Consumer Product Safety Commission; Paul N. Hunter, Director Massachusetts Childhood Lead Poisoning Prevention Program (MACLPPP), MA Department of Public Health; and Daniel Locher, Supervisor Minnesota Department of Health - Asbestos & Lead Compliance Program.

Environmental Problem: Lead is a toxic metal that may cause a range of health effects, from behavioral problems and learning disabilities, to seizures and death. Children six years old and under are most at risk. Exposure to lead usually occurs due to the presence of deteriorating lead-based paint (LBP), lead contaminated dust (particularly from renovations), and lead-contaminated residential soil.

In order to achieve better and faster environmental results with the lead paint problem, the Lead Paint Action Team decided that innovative technology could help reduce lead exposure and lower the cost of abatements.

Technology Challenges:

1. **Early detection:** The development of simple, inexpensive, and sufficiently reliable detection technologies that residents and owners might use to identify the presence of lead in paint, dust, and soil in respect to TSCA's §403 definition of LBP hazards (40 CFR 745.65) and dust clearance standards (40 CFR 745.227(e)(8)(viii))
2. **Abatement:** The identification and/or development of efficient and cost effective technologies for stabilizing or removing lead-based paint while minimizing the generation of lead in dust and debris
3. **Eliminate barriers to new/portable testing technologies:** Ensure that new technologies and portable analytical instruments are incorporated in the National Lead Laboratory Accreditation Program (NLLAP) while ensuring that the standards are as protective as the standards that apply to fixed-site laboratories.

Stakeholder and Partner Involvement:

FY07-08 Accomplishments: The Team held 11 monthly meetings in FY'07 and 8 monthly meetings in FY'08 through June, 2008.

1. **Early Detection**
    - SBIR Phase II funding for a lead dust test kit being developed by DzymeTech. They were awarded $225,000, and they have applied for additional funding for the ETV verification and the commercialization options. HUD is also funding the researchers at the University of Illinois, who work with DzymeTech, to develop a paint test kit.
    - The second SBIR Phase I company, Silver Lake Research, did not receive SBIR Phase II funding for its lead paint test kit, but it did receive funding from HUD's Lead Technical Studies for $471,116.
    - Quarterly Action Team conference calls were held with DzymeTech, the SBIR Phase II company.
    - Submitted topics for FY'07 SBIR solicitation.
    - After evaluating the state of the science on lead paint test kits, Sharon Harper (ORD/NERL), in support of OPPT, identified sources of error and has been researching improvements in paint collection techniques, extraction methods, selectivity, detection, and lead response. In order for Sharon and the lead paint test kit developers to share research information, Nondisclosure Agreements (NDAs) need to be approved by EPA/OGC and signed by all parties. In 2007, OGC approved NDAs with three lead paint test kit vendors. A fourth vendor has drafted an agreement and we are waiting for OGC approval. With the NDAs in place, Sharon will be able to exchange information with each of the four vendors. Material Transfer Agreements (MTAs) have been signed with three vendors allowing lead paint containing materials to be transferred to the vendors for use in developing kits to meet the RRP rule specifications.

2. **Abatement**
    - The SBIR Phase II and HUD funded lead abatement technology being developed by PS&T received further funding from NSF and HUD for 2007-9. For HUD, they are developing a mobile unit for a demonstration in Lawrence, MA in October, 2008. For NSF, they improving the intensity of their pulsed light lamp which is a key component of this technology.
3. **Eliminate barriers to new/portable testing technologies:**
    - The Federal Register notice announcing the revision to NLLAP (known as Laboratory Quality System Requirements version 3 - LQSR3) was released in the Fall, 2007. It addresses the barriers to using portable testing technologies. The LQSR3 allows portable laboratories to become NLLAP certified. **This technology challenge has been accomplished.**

FY08 Objectives:

1. **Early Detection**
    - Continue to follow the progress of the two test kit companies.
    - Continue to follow the progress of the ORD NERL research.
    - Encourage the test kit companies to apply for ETV verification.
    - Provide support to the ETV-ESTE process for lead paint test kits.
    - Ask MN & MA if they would consider testing the test kit technologies.
    - Review new SBIR proposals.
2. **Abatement**
    - Continue to follow the progress of the PS&T lead paint abatement technology.
    - Participate on PS&T's external advisory committee regarding the October demonstration.
    - Encourage PS&T to have verification on the technology.
    - Look for possible verification partners.
    - Search for additional dust free abatement technologies.

Current Funding and Additional Resources Required: The Team does not control this funding, but it has encouraged the technology companies to apply for the EPA, HUD & NSF funding.

• SBIR Phase II for DzymeTech	EPA	$225,000
• Lead Technical Studies funding for Silver Lake	HUD	$471,116
• Lead Technical Studies funding for PS&T -	HUD	$370,000
• NSF Phase II funding for PS&T	NSF	$475,000

Issues: [Please briefly identify any significant issues that bear on the work and potential environmental impact of your Action Team.]

Performance Measures:

Early Detection: The benefit of the new test kits should be improved accuracy and ease of use at a low cost. It is well known that existing test kits do not accurately identify the presence of lead paint. It is anticipated that the new kits will be available by the time the Remodeling and Renovation Rule takes effect.

Lead Paint Abatement: The primary benefit of the PS&T technology will be "dust free" lead abatement. If the technology is successful then it should dramatically reduce exposure during renovations.

Lessons Learned:

- Through our Lead Paint Action Team, we have developed a close relationship with HUD and the other federal agencies. The HUD relationship, in particular, has leveraged EPA's SBIR funding. In 2008, HUD is funding $841,116 in comparison to EPA's $225,000 for the test kits and lead paint abatement technology that our team is tracking. In addition to the above, HUD has also funded the University of Illinois to do early research on another type of lead paint test kit.
- Over the last four years, EPA/SBIR has probably invested $660,000 in these technologies, and HUD, NIST, & NSF have invested at least $2.1M.
- The quarterly conference calls with the technology developers have been very important for the following reasons: 1) exchange of critical information and advice which has had an impart on the development of the technology, and 2) HUD's active participation and interest in the calls resulted in them funding Silver Lake Research after EPA's SBIR Program denied Phase II funding.