

**Technical Review Workgroup for Metals and Asbestos
Lead Committee Annual Report:
Accomplishments and Activities for Calendar Year**

Members

Region 1

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TRW Lead Committee Accomplishments of Calendar Year 2015

Reports and Guidance Development on Lead Risk Assessment

1. **Office of Land and Emergency Management (OLEM) Desk Statement on Status of Superfund Soil Lead Policy:** Supported the development of analyses, briefings, and outreach materials related to the 2012 U.S. Centers for Disease Control and Prevention (CDC) recommendations for blood lead reference value. The proposed strategy and materials are in review.
2. **Integrated Exposure Uptake Biokinetic Model for Lead in Children (IEUBK model) Variable Review:** Recommended updates to exposure variables (*i.e.*, ventilation rate, dietary lead exposure, water lead concentration, water consumption, and bioavailability) in the IEUBK model based on literature review. The draft recommendations have been externally peer reviewed and the revised versions are being reviewed by OSRTI management. In addition, an updated literature search and revisions have been made to the dietary lead, water consumption and breathing rate variables. The final variables will be incorporated in the IEUBK model and posted to the TRW website.
3. **Age Range in the IEUBK model:** Recommended changes to the default age range in the IEUBK model. Currently in review by Office of Superfund Remediation and Technology Innovation (OSRTI) management. The final document will be posted to the TRW website.
4. **Short-term and Acute Exposures to Lead:** Recommended updates to the guidance concerning risk assessments involving short term exposures to lead. Currently in review by OSRTI management. The final document will be posted to the TRW website.
5. **Blood Lead Screening Recommendations:** Continued development of a recommendation for appropriate uses of blood lead data at Superfund sites. Currently being reviewed by OSRTI management. The final document will be posted to the TRW website.
6. **Maternal Blood Lead Concentration:** Recommended updates, based on most recent National Health And Nutrition Examination Survey data, to the default maternal blood lead variable in the IEUBK model and the Adult Lead Methodology (ALM). Materials are under review by OSRTI management. The final document will be posted to the TRW website.
7. **Particle Size and Sieving Analysis:** Prepared an updated recommendation based on literature search and analysis on the particle size fraction that adheres to a child's hands. The draft recommendation was externally peer reviewed and OSRTI management is reviewing the revised version. The final document will be posted to the TRW website.
8. **Soil Ingestion Rate:** Completed literature review, and continued research and discussion on updating the recommended default soil ingestion rate in the IEUBK model. Recommendations were sent to the Exposure Factors Handbook (EFH) workgroup.
9. **Development of Pica FAQ:** Posted to the TRW Lead Committee website.

10. **Residential Lead Sites Handbook:** Continued discussion and updates based on feedback from OSRTI management, Agency for Toxic Substances and Disease Registry (ATSDR), and EPA regions and program offices.
11. **Mass Fraction of Soil in Indoor Dust (M_{SD}):** Evaluated data and developing a report on the existing data from Bunker Hill site. The proposed strategy and materials will be reviewed by OSRTI management.
12. **Urban Lead Risk Assessment:** Continued discussion of sources of urban lead and sampling. Created Lead Source Attribution Subcommittee to review the state of the science, and supported a workshop on urban soil lead in Philadelphia (September 15-16, 2015).
13. **All-Ages Lead Model (AALM):** Participated in discussions of the AALM and coordinated a beta test of the model, as well as a collaboration among the TRW, Office of Research and Development (ORD), Office of Pollution Prevention and Toxics (OPPT) and the ATSDR.

Communication, Training, and Outreach

1. **Hotline:** Responded to 56 requests for assistance in Calendar Year 2015. Of these calls, approximately 63 percent of requests were from state and federal agencies and the remainder from other sources (public, non-governmental organizations, and engineering and consulting firms). One request was from outside the U.S. (Poland). The majority of the requests pertained to the IEUBK model, exposure, screening levels/policy, or guidance-related questions.
2. **Presentations/Training:** TRW Lead Committee members presented at a number of conferences and training meetings in calendar year 2015. These are listed in the table below. In addition, the TRW Lead Committee supported the development of a TRW Lead Committee training video and IEUBK model training. The first videos have been posted to the TRW website (<http://www.epa.gov/superfund/lead-superfund-sites-guidance>).

Meeting/Presentation/ Training	Location	Dates	TRW Member(s)	Title of Presentation
SOT conference	San Diego, CA	3/22-3/26	MStifelman	Estimating Children's Soil and Dust Ingestion Rates Using Blood Lead Biomonitoring
Australian Society of Soil Science	Adelaide, Australia	4/30	KScheckel	Human Health Impacts of Metal Contaminated Soils
13 th International Conference on the Biogeochemistry of Trace Elements	Fukuoka, Japan	7/12-16	KScheckel	Assessing the efficacy of amendment strategies for Pb-contaminated soil using XAS, in vivo and in vitro assays.
Urban Lead Conference	Philadelphia, PA	9/15-9/16	MStifelman	Lead Soil Dust Exposure
			CPartridge	IEUBK Model

3. **Website:** This website has been developed in coordination with the Agency-wide lead website in order to provide Superfund-specific information on lead. The TRW Lead Committee continues to support the transition to the One-EPA Web format.
4. **Publications & Reports:** Members of the Lead Committee continually contribute to scientific literature through published articles and reports.
 - Remediation of a Lead-smelter Contaminated Calcareous Soil with Different Amendments and Their Effects on Metal Availability and Soil Properties. W. Xing, L. Li, K.G. Scheckel, A.R. Betts, G. Xiang, H. Lan, and L. Li. 2014. Acta Scientiae Circumstantiae. 34: 1534-1540.
 - Technical Memorandum: Rationale and Efficacy of Amending Soils with Phosphate as Means to Mitigate Soil Lead Hazard. U.S. Environmental Protection Agency, Washington, DC. (OSWER 9355.4-27, 2015).
5. **Lead Committee Annual Meeting:** Held November 2-6, 2015, at the Gulf Breeze Research Laboratory in Gulf Breeze, FL. Members of the Lead and Bioavailability Committees met to work on projects and plan activities for 2016.

Coordination with Regions, EPA Program Offices, and Other Federal Agencies

Region 1: Discussed treatment technologies for maectite contamination, and provided support to the State of Maine for the development of a fish advisory.

Region 2: Discussed the applicability of sieving subsurface samples.

Region 7: Supported research: “Region 7 Societal Impact of Lead Exposures at the Omaha Lead Site”. Provided support for the ASARCO Site.

Region 8: Pueblo, CO site. Provided information on blood lead sampling and interpretation. Discussed rock wool and potential lead hazards.

ATSDR: Coordinated with ATSDR to align the response to the CDC blood lead reference value. Also, continued discussions to coordinate an EPA-ATSDR beta test of the most recent version of the AALM.

ORD: Collaborated with ORD on soil ingestion research.

OPPT: Collaborated with OPPT on the Lead Dust Hazards Standards.

Coordination with Other Nongovernment Groups

1. ***TerraGraphics:*** The Committee is continuing to work with TerraGraphics to explore M_{SD} and in coordination with Region 10 on soil-dust ingestion rates based on exposure and blood lead data from Bunker Hill/Coeur d'Alene Basin.
2. ***Saudi Arabia and AALM:*** Provided technical support and simulated exposures using the AALM.
3. ***Blacksmith Group:*** Coordination with Blacksmith Group on Zambia and developing an approach for a Monte Carlo analysis using the ALM and IEUBK model.