

OLS
CAG

Omaha Lead Site
Community Advisory Group
P.O. Box 12282
Omaha, NE 68112

September 14, 2004

Mr. Debbie Kring
U.S. EPA, Region VII
901 North 5th Street
Kansas City, Kansas 66101-2907

RE: Questions Regarding EPA's Remedial Investigation and Risk Assessment for the
Omaha Lead Site

Dear Ms. Kring,

Attached are questions regarding EPA's Remedial Investigation and Risk Assessment for the
Omaha Lead Site. The Community Advisory Group (CAG) is requesting that EPA respond
in writing to each question in the attachment. Please enter the CAG's questions into the
Administrative Record for the Omaha Lead Site and provide the CAG with responses.

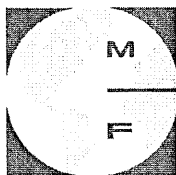
If you have any questions, please contact me at (402) 344-7797.

Sincerely,

Brenda Council / gcr

Brenda Council
Facilitator

Cc: Bob Feild, EPA



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consulting
scientists and
engineers

CAG Remedial Investigation/Risk Assessment Subcommittee

General Questions Regarding NHHS's *Baseline Human Health Risk Assessment, Omaha Lead Site* and EPA's *Remedial Investigation, Residential Yard Soil, Omaha Lead Site*

At the August 3, 2004 CAG Remedial Investigation/Risk Assessment (RI/RA) Subcommittee meeting, EPA suggested that for future meetings, CAG subcommittees provide EPA with written comments to allow EPA a better opportunity to prepare responses. The following questions are provided as a starting point for the CAG to consider as questions for the next RI/RA Subcommittee meeting (to be scheduled). It is up to the CAG to decide which, if any, of these questions are submitted to EPA, and it is also up to the CAG to decide if there are additional questions that members would like added to this list. MFG developed all of the questions that are presented below:

NHHS's Baseline Human Health Risk Assessment, Omaha Lead Site

1. In the methodology described by EPA, adult exposures to lead are not being evaluated in the Omaha Lead Site risk assessment.

The EPA has developed adult blood lead models - why are these models not being considered at the Omaha Lead Site? Also, why are women of childbearing age, nursing mothers, and pregnant women not included in the risk assessment for the Omaha Lead Site?

2. For all zip codes, noncarcinogenic risks for arsenic are greater than 1.0 for children and carcinogenic risks are greater than the lower bound of EPA's risk range for children and adults. The significance of these calculated risks and the measures required to address these risks are not discussed.

How are arsenic risks going to be addressed?

3. For the data given in Appendix 13 of the Baseline Risk Assessment, the IEUBK model predicted 65 children to have blood lead levels greater than 10 $\mu\text{g}/\text{dL}$. In actuality, within this

- data set there were 151 children with blood lead levels greater than 10 µg/dL. This means that for this data set, the model under predicted children at risk at a rate greater than 2 to 1. **What value is the IEUBK model if the results do not accurately predict actual site conditions?**
4. Data collection was not focused on gathering information regarding all potential sources that cause elevated blood lead levels. Paired data for blood lead and soil; information regarding interior and exterior house paint; tap water samples; and details regarding the percent of time spent at home versus elsewhere were not collected. **Much discussion has occurred regarding sources of lead other than industrial sources (e.g. paint, hobbies, tap water, etc.). How can remedy decisions be made without knowing the contribution of these sources to the overall risk of Omaha residents?**
5. Only 159 homes were sampled for interior dust. Considering that there are over 40,000 properties within the site, only 0.4% of properties were sampled. No justification is given to support an assumption that these 159 homes are representative of overall site conditions. **Has EPA done any statistical analysis to determine if an adequate amount of data has been collected to accurately predict site risks?**
6. There is some evidence that the bioavailability at the site could be the result of lead-based paint in the soils. It has been shown that lead-based paint is typically more bioavailable than pyrometallurgical lead and is consistent with the bioavailability estimates for the Omaha Lead Site. Additionally, EPA has indicated that at least 38% of bulk lead concentration in Omaha Lead Site soils is from pyrometallurgical sources, indicating that up to 62% of bulk lead concentration is due to other sources (Drexler, 2002). **Has the EPA compared the results for the bioavailability at OLS to the bioavailability of paint and paint in soil?**
7. There are demographic groups, such as pregnant women and children residing (or spending a significant amount of time) in the downtown area, which could be at risk from lead exposure, yet these groups were excluded from the risk assessment. **Why was the downtown area excluded from the OLS boundaries and how will EPA address risk to these individuals?**
8. An evaluation correlating dust concentrations with other variables, such as age of home does not appear to have been done. The evaluation of the contribution of all sources of lead to site contamination and risk to blood lead levels is necessary in developing a remedial action which will achieve the desired reduction in risk to residents. **Has EPA considered evaluating the correlation between dust concentrations and other variables, like age of home and presence of lead-based paint?**

9. It is stated on page 33 of the Risk Assessment: “The drip zone samples were excluded primarily because of the possibility of the presence of exterior-lead based paint and the drip zone is not an area where children are likely to play”. Regardless of the lead source, drip zones (the area around the foundation of the house) should be recognized as potential play areas for children and should be considered in the development of a clear model for site exposures. In addition, lead-based paint chips may migrate to the soils in the yard via humans and lawnmowers. The notion that children do not play in drip zones is unsubstantiated. The drip zone may be the primary place of play for some children and for many homes, this area has the most “bare soil” (soil that is not covered with vegetative growth such as grass, bushes, etc.), presenting the greatest risk to lead exposure via soil.

Why were drip zone soils not considered in the risk assessment?

10. Data collected during the EPA’s demographic survey indicate that residents in 5% of homes (of the 159 homes surveyed) have occupational exposure to lead. Evaluations could have been made to assess if children in these homes have higher blood lead levels than other children. An evaluation could also have been made to determine if dust levels in these homes have a higher lead content than other homes.

Has there been any consideration for occupational exposure to lead and its impact on either site contamination or elevated blood lead levels?

11. Comparison of the soil lead data presented in Appendix 13 to the blood lead measurements of children residing in these homes indicates that soil is not the primary source for elevated blood lead levels at the site. Homes with the highest soil lead concentrations in this data set did not have children with elevated blood lead levels (there were no children with blood lead levels greater than 10 µg/dL in any of the homes with soil concentrations greater than 950 ppm), and many of the lowest soil concentrations were associated with homes with elevated blood lead levels (many of the most elevated blood lead levels were from homes with soil concentrations less than 275 ppm).

How does the likelihood that a source other than soil is contributing to children’s blood lead levels within the OLS affect the results of the risk assessment?

EPA’s Remedial Investigation, Residential Yard Soil, Omaha Lead Site

1. Examples of sources that were not considered include interior and exterior lead-based paint on homes; lead-based paint in soils from chipping and peeling paint and from historic activities such as the demolition of homes during construction of the North Freeway; wide-spread of lead arsenate pesticide within the site; historic use of lead-contaminated slag materials in city sidewalks; tap water; and occupational and hobby sources.

How are decisions regarding remedy selection for this site impacted if all significant sources of lead exposure within the Omaha Lead Site are not identified?

5. Per EPA Order 5360.1 and associated EPA guidance, the quality and validity of data generated must be consistently well documented because this information is used to support remedy selection decisions. Without established data quality objectives (DQOs), there is no context in which to assess or document the validity of data collected.

The investigation activities deviated from project plans prepared for the investigation. What impact does this have on the investigation results?

4. The original field sampling plan (FSP) for the project (Sverdrup, 1999) and Quality Assurance Project Plan (QAPP) (Sverdrup, 1999) called for the collection of exterior paint samples and for an evaluation of drip zone lead concentrations in comparison to yard soil concentrations to assess potential lead-based paint impacts. Exterior paint samples were not collected. An explanation as to why these tasks were not completed is not included in the remedial investigation (RI). In addition, based on EPA's original FSP and QAPP, EPA was to conduct sampling based on prevailing wind directions to determine what, if any, impact the refinery has had on soil.

If all the appropriate lead sources were not identified, how could a presumptive sampling and investigation be conducted at the site?

3. The Superfund process employs a step-wise methodology to ensure that key site decisions regarding the selection of a remedy are based on accurate and relevant data. This process includes data collection, data quality assurance, and public involvement components. EPA's investigative approach appears to have deviated from both EPA's Guidance for Conducting Remedial Investigation and Feasibility Studies Under CERCLA (October, 1988) and EPA's Superfund Lead-Contaminated Residential Sites Handbook (August, 2003).

Why were data not collected from each of these media and why were evaluations not conducted to determine the contribution of each to blood lead levels?

- Residential yard soil
- Gravel driveways
- Drip zones and soil below roof gutter downspouts
- Soil in play areas (as distinct from yard soil)
- Garden soils (also distinct from yard soil)
- Backfill soil
- Interior dust
- Interior paint
- Exterior paint
- First run and purged tap water
- Crawl spaces (if accessible)
- Attics (if accessible)
- Blood of children living (or spending large amounts of time) in the home

2. EPA's Superfund Lead-Contaminated Residential Sites Handbook (final: August 2003), on page 20, discusses site characterization (part of the RI) and identifies media for sampling at residential sites.

Can EPA expand the discussion regarding the quality and validity of data generated in EPA's investigation?

6. Blood lead data are available from the Douglas County Health Department. Union Pacific Railroad sampled 53 homes for other lead hazards and provided the sampling results to EPA. These data need to be evaluated to determine if correlations can be made between lead sources and child blood lead levels within the site.

Why has EPA not evaluated correlations between exterior soil contamination, interior lead concentrations, and blood lead levels in children?

7. Based on prevailing wind patterns, it would seem logical to conduct sampling in areas of Council Bluffs, Iowa. Yet, soil lead data from Council Bluffs appears to be minimal.

Why is there not extensive sampling being conducted in Council Bluffs, Iowa?

